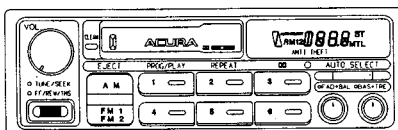


Service Manual

PIONEER
The Art of Entertainment

• KEH-6261ZH/US



ORDER NO.
CRT1416

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

KEH-6261ZH US

KEH-7261ZH CA

• These models have been installed in HONDA INTEGRA.

Model	HONDA No.	Destination
KEH-6261ZH/US	39100-SK7-A020-M1	U. S. A.
KEH-7261ZH/CA	39100-SK7-C020-M1	CANADA

Note:

- See the service manual CX-156 (CR-468) for the cassette mechanism description.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

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1. SPECIFICATIONS

General

Power source	14.4 V DC (10.8 — 15.6 V allowable)
Grounding system	Negative type
Dimensions	180(W) × 52(H) × 160(D) [7-1/8(W) × 2(H) × 6-1/4(D)in.]mm
Weight	1.7 kg (3.7 lbs.)

Amplifier

Continuous power output is 14 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.

Maximum power output	25 W × 4 (EIAJ)
Load impedance	4 Ω (4 — 8 Ω allowable)
Tone controls (bass)	+4 dB (125 Hz)
(treble)	-1 1/2 dB (10 kHz)

Tape player

Tape	Compact cassette tape (C-30 — C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., -0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.09% (WRMS)
Frequency response	Metal: 50 — 16,000 Hz (±3 dB) Normal: 50 — 12,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	Dolby NR IN: 60 dB (IHF-A network) Dolby NR OUT: 52 dB (IHF-A network)

FM tuner

Frequency range	87.75~107.9 MHz(200 kHz)
Usable sensitivity	14 dBf (1.4 μV/75 Ω, mono)
50 dB quieting sensitivity	21 dBf (3.2 μV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IHF-A network)
Distortion	0.5% (at 65 dBf, 1 kHz, stereo)
Frequency response	50 — 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range	530 — 1,710 kHz (10 kHz)
Usable sensitivity	20 μV (26 dB) (S/N: 20 dB)
Selectivity	50 dB (±10 kHz)

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

2. DISASSEMBLY

● Removing the Case

1. Insert and turn a flat screwdriver to remove the case.

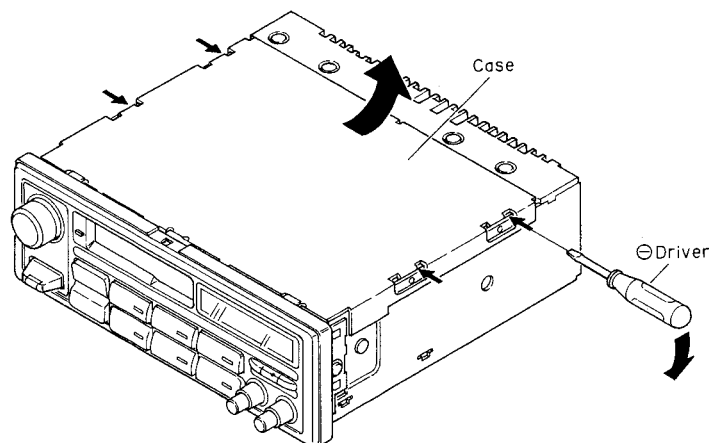


Fig. 1

● Removing the Grille Assy

1. Remove the five knobs.
2. Remove the two screws B.
3. Press the tabs at six locations indicated by arrows, and pull out the grille assy.

● Removing the Cassette Mechanism Assy

1. Remove the four screws A.
2. Disconnect the connector (20P), and then raise the cassette mechanism assy to remove.

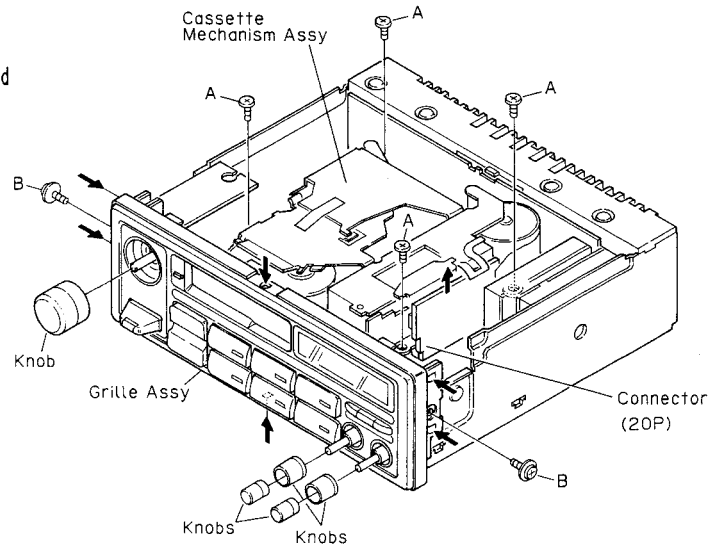


Fig. 2

● Removing the Key Board P. C. Board

1. Remove the four screws C and then remove the key board p.c. board

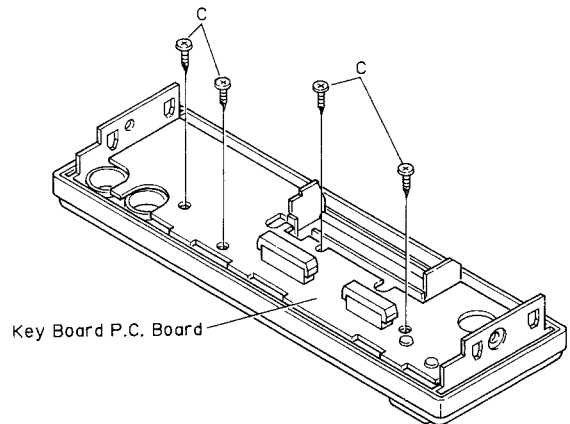


Fig. 3

● Removing the Chassis and Heat Sink

1. Remove the nine screws D and four screws E.
2. Remove the screw F and then remove the chassis and heat sink.

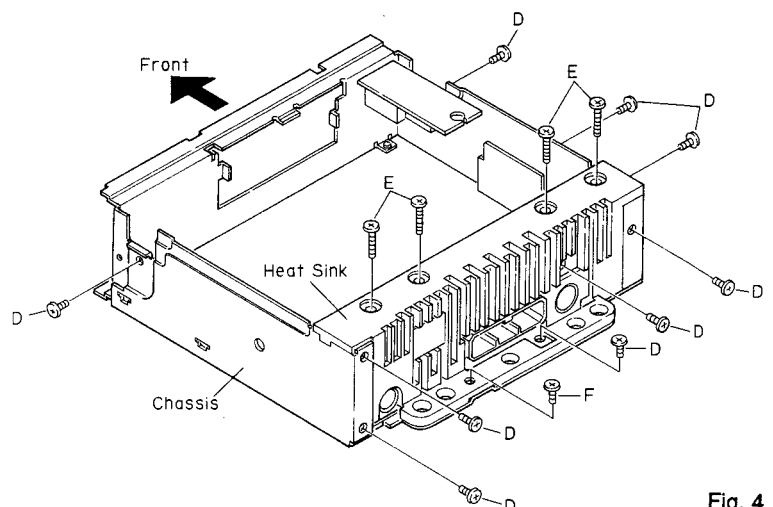
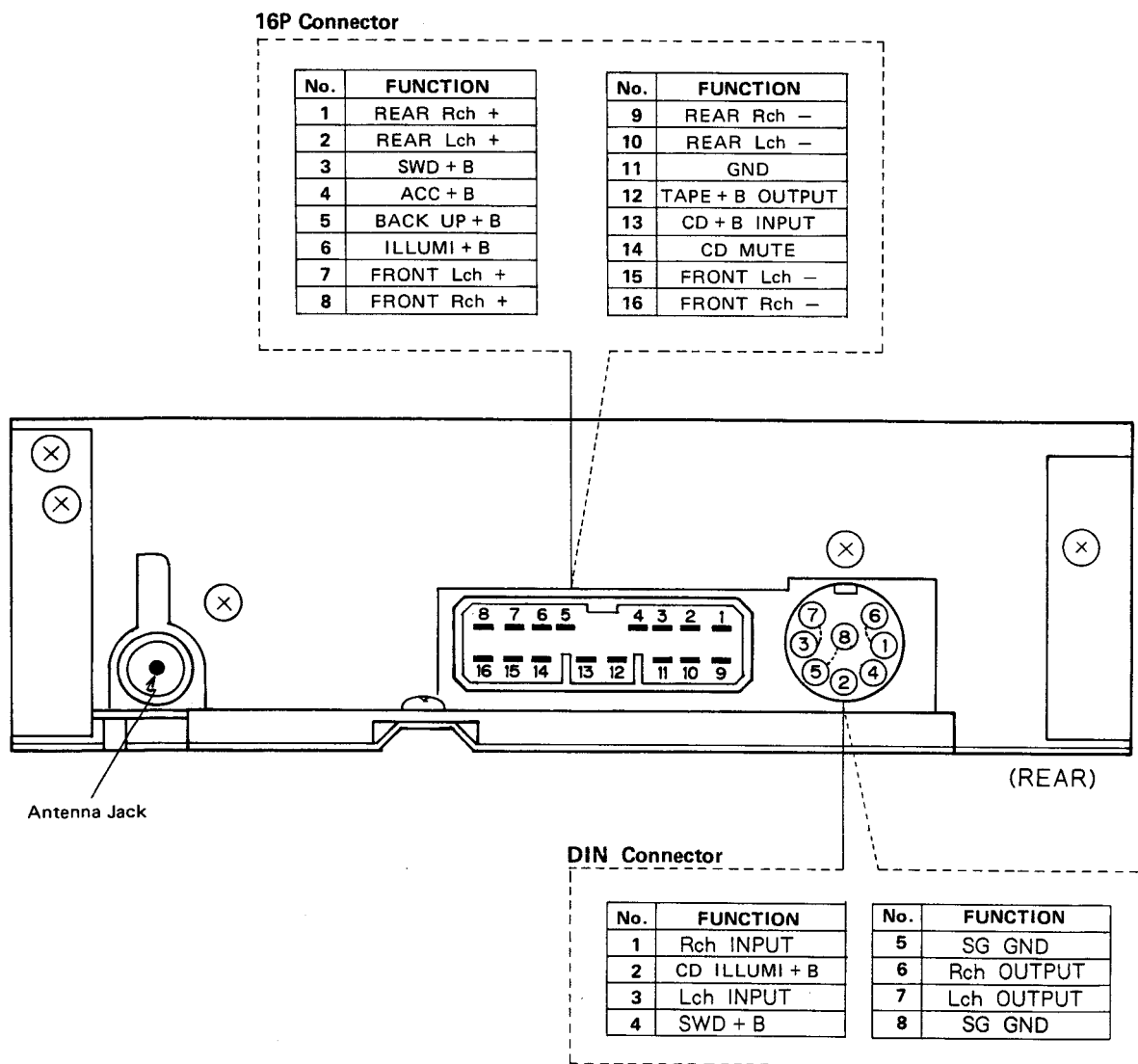


Fig. 4

3. CONNECTOR TERMINAL FUNCTIONS



Note:

When using this unit alone, insert the "short plug" into the DIN terminal to short pars 7-3, 6-1, 8-4.

Fig. 5

4. BLOCK DIAGRAM

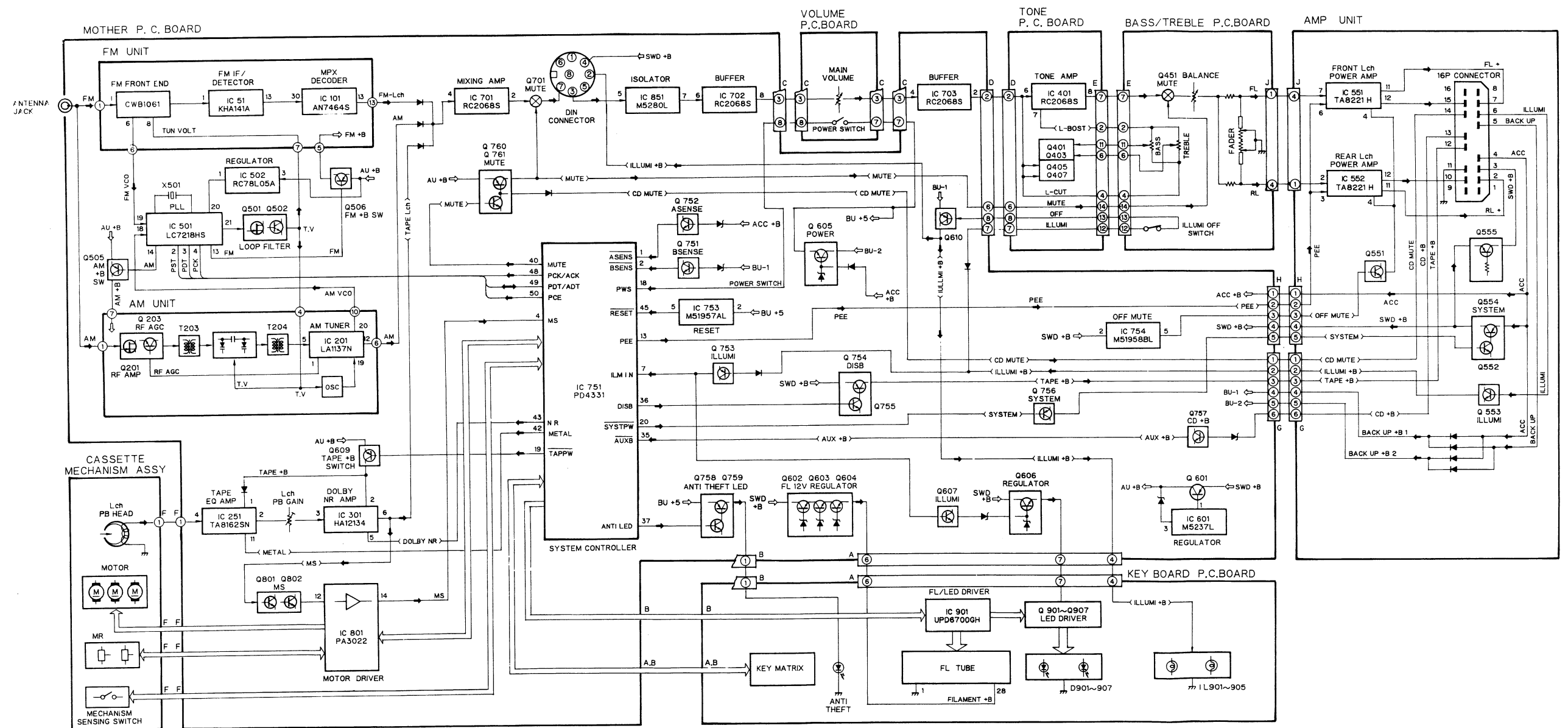


Fig. 6

5. ADJUSTMENT

● Connection Diagram

NOTICE:
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.
Z: Output impedance of SSG.

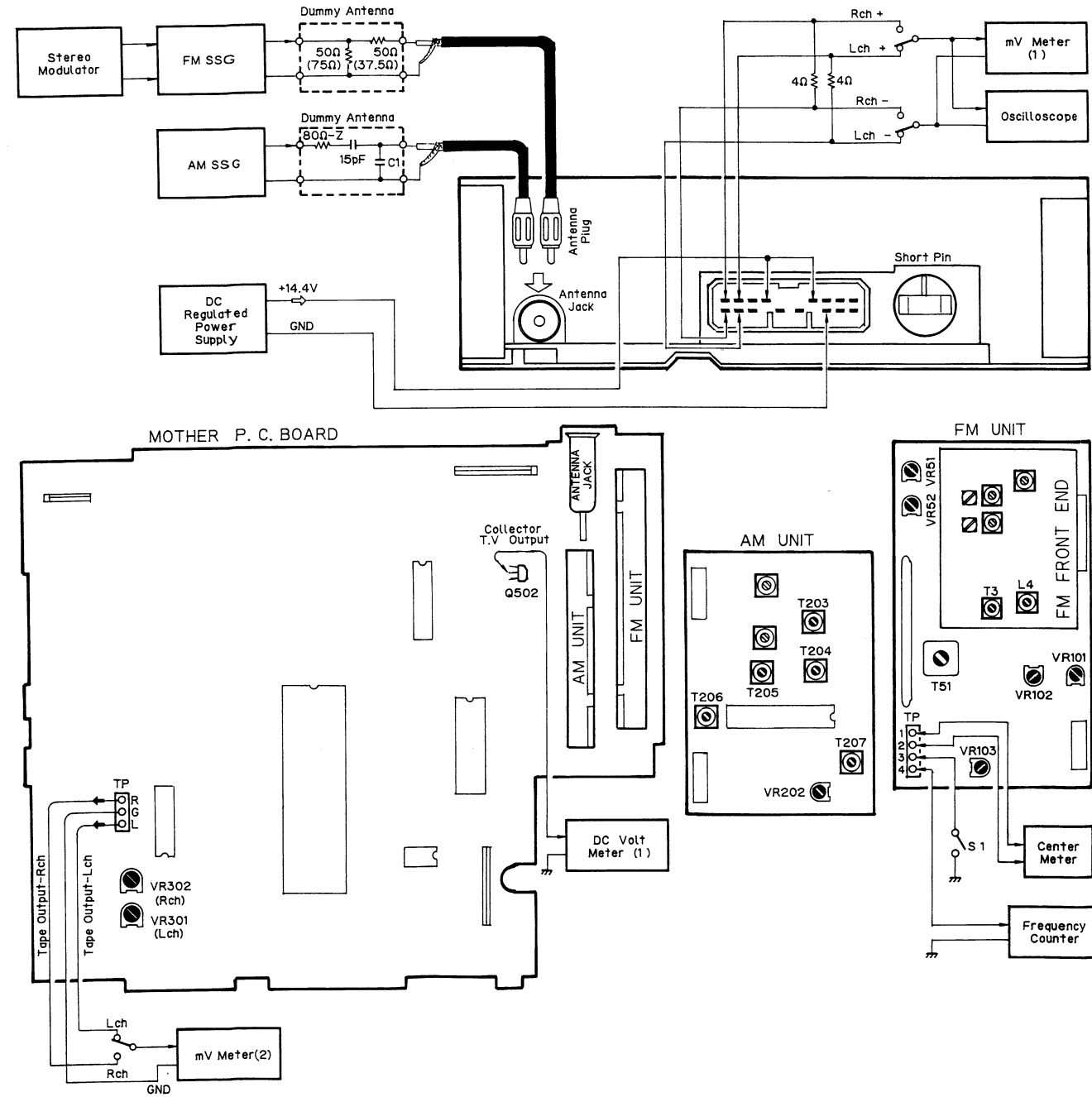


Fig. 7

DOLBY NR ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjusting Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR301 (Lch), VR302 (Rch)	mV Meter (2) : 330mV (-7.2dBs±1dB) (DOLBY NR Switch:OFF)

AM ADJUSTMENT

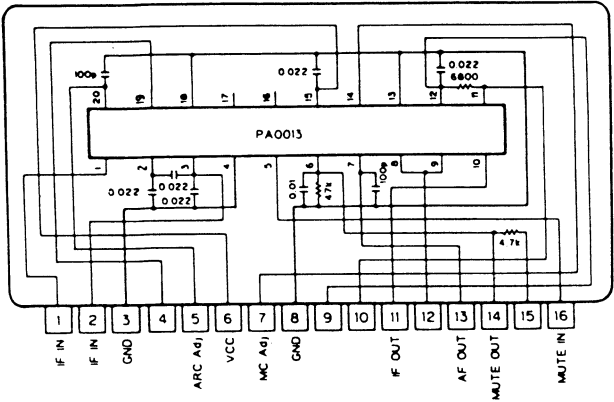
	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjusting Method (Switch Position)
		Frequency (kHz)	Level (dBμV)			
Tuning Volt	1	530	25	530	T207	DC V Meter (1) : 1.0±0.05V
	2	1,710	25	1,710	—	DC V Meter (1) : Less than 7.3V
	3	600	25	600	T203, 204, 205, 206	mV Meter (1) : Maximum
SEEK	1	1,000	33±5	1,000	VR202	Make SEEK stop.

FM ADJUSTMENT ※ 1 Stereo MOD. : 1kHz, L+R=90%, Pilot=10%

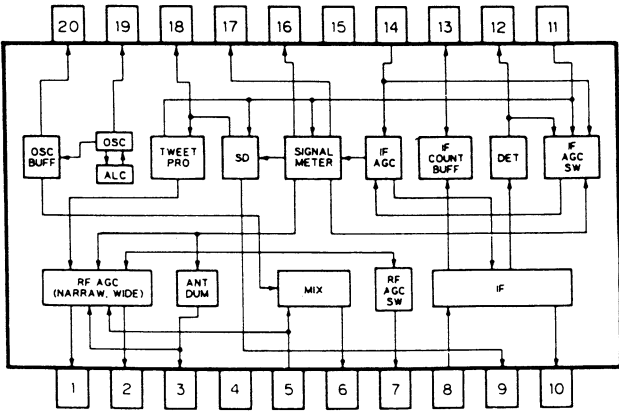
	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjusting Method (Switch Position)
		Frequency (MHz)	Level (dBf)			
IF	1	98.1	65	98.1	T51	Center Meter:0
Front End	1	—	—	87.75	L4	DC V Meter (1) : 7.3±0.1V
	2	—	—	107.9	—	DC V Meter (1) : 1.0+0.5V -0.4V
	3	98.1	20	98.1	T3	mV Meter (1) : Maximum
19k	1	98.1	65	98.1	VR101	S1 : ON Frequency Counter : 19kHz±50Hz
SM	1	98.1	65	98.1	VR52	DC V Meter (2) : 2.5±0.1V
MPX	1	98.1 ※1	65	98.1	VR103	mV Meter (1) : Separation Maximum
	2	98.1 ※1	35	98.1	VR102	mV Meter (1) : Separation 5dB
SEEK	1	98.1	30±5	98.1	VR51	Make SEEK stop.

- ICs

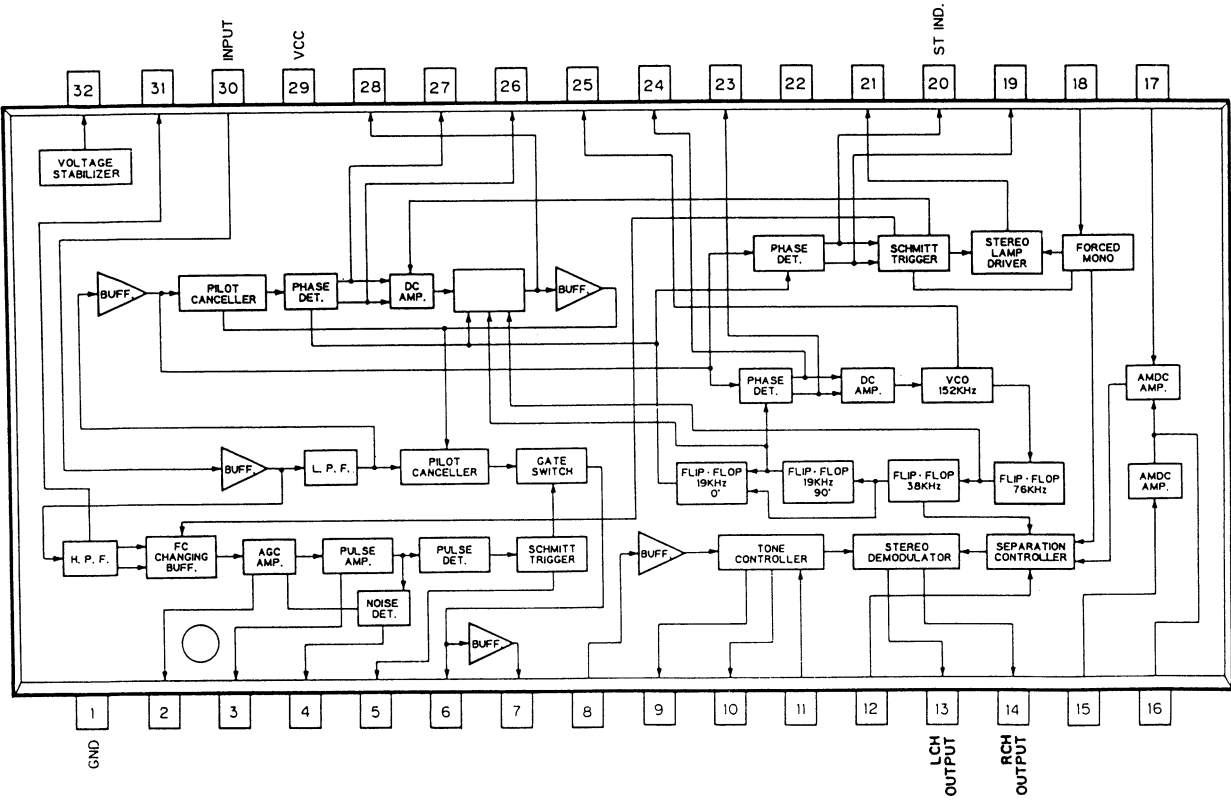
KHA141A



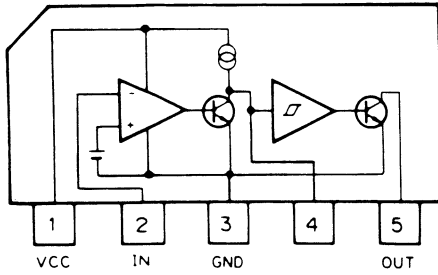
LA1137N



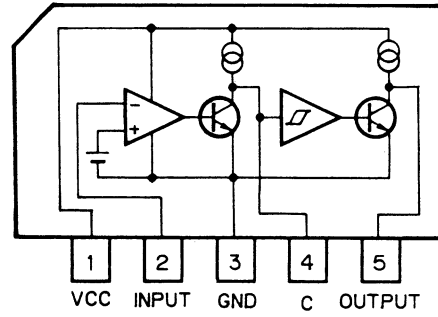
AN7464S



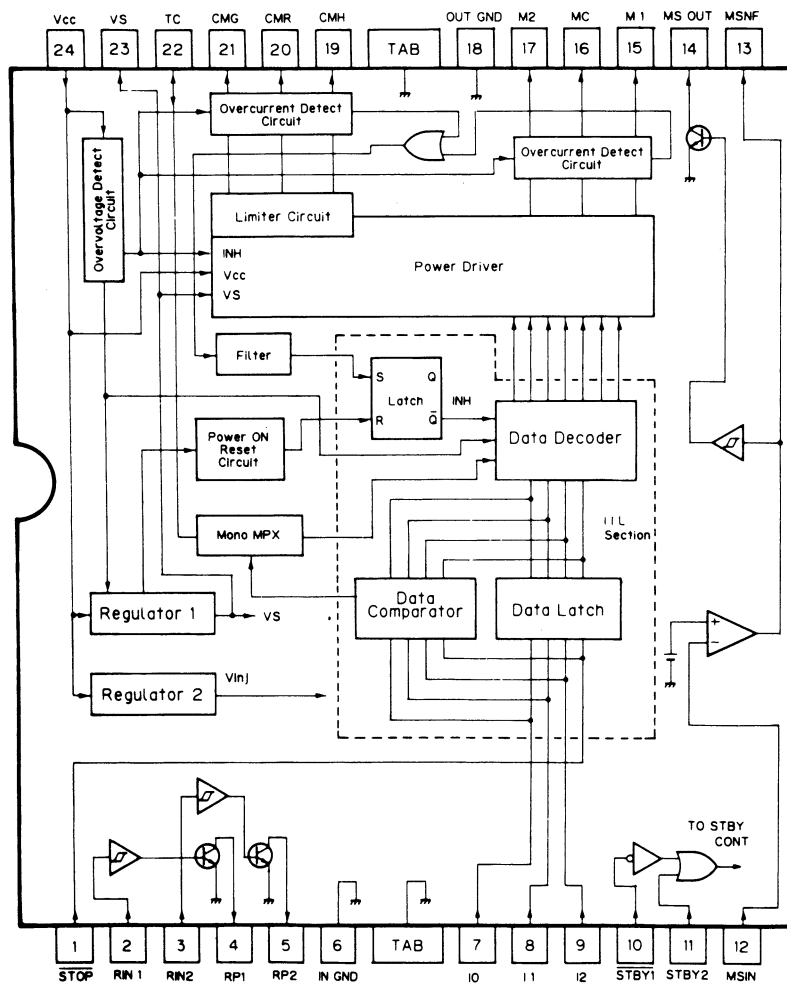
M51958BL



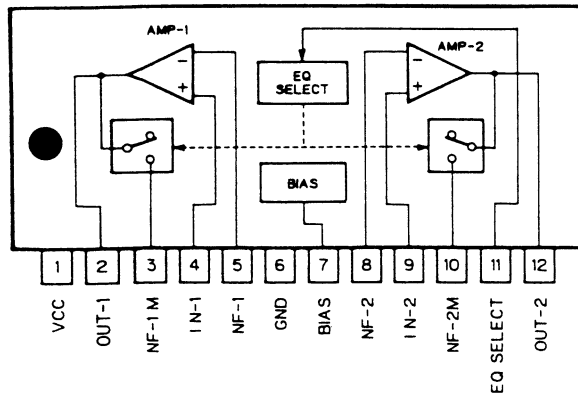
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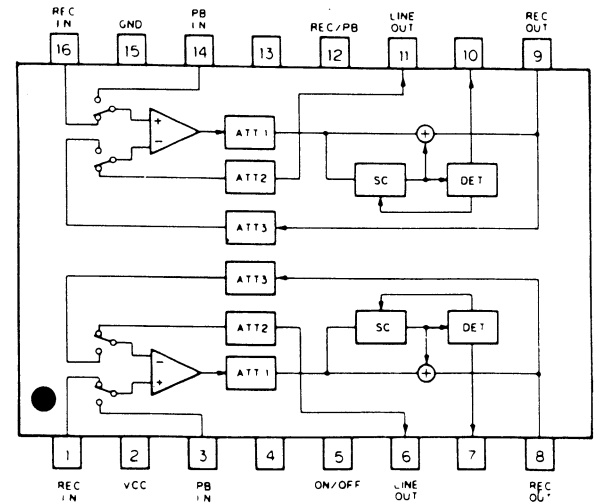
PA3022A



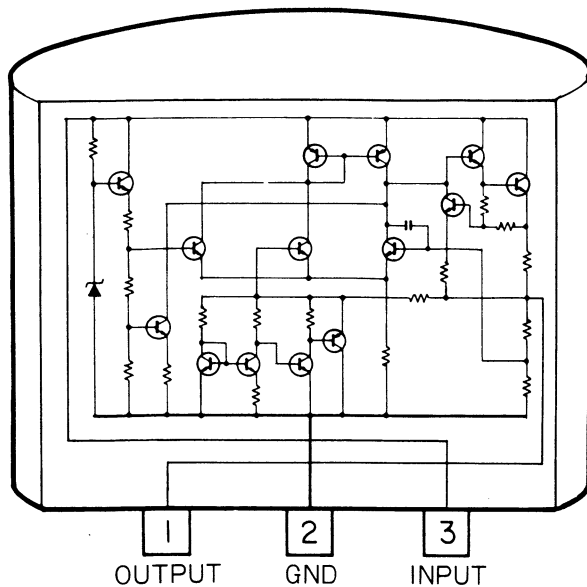
TA8162SN



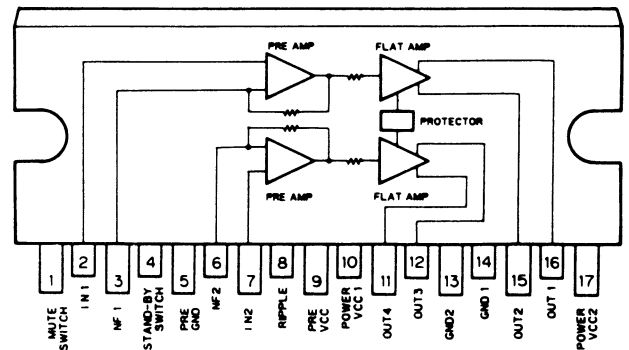
HA12134



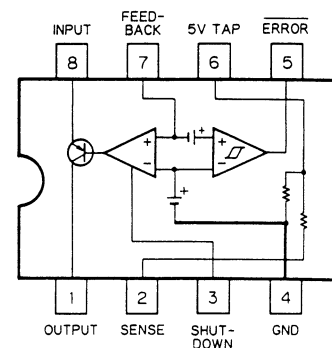
RC78L05A



TA8221H

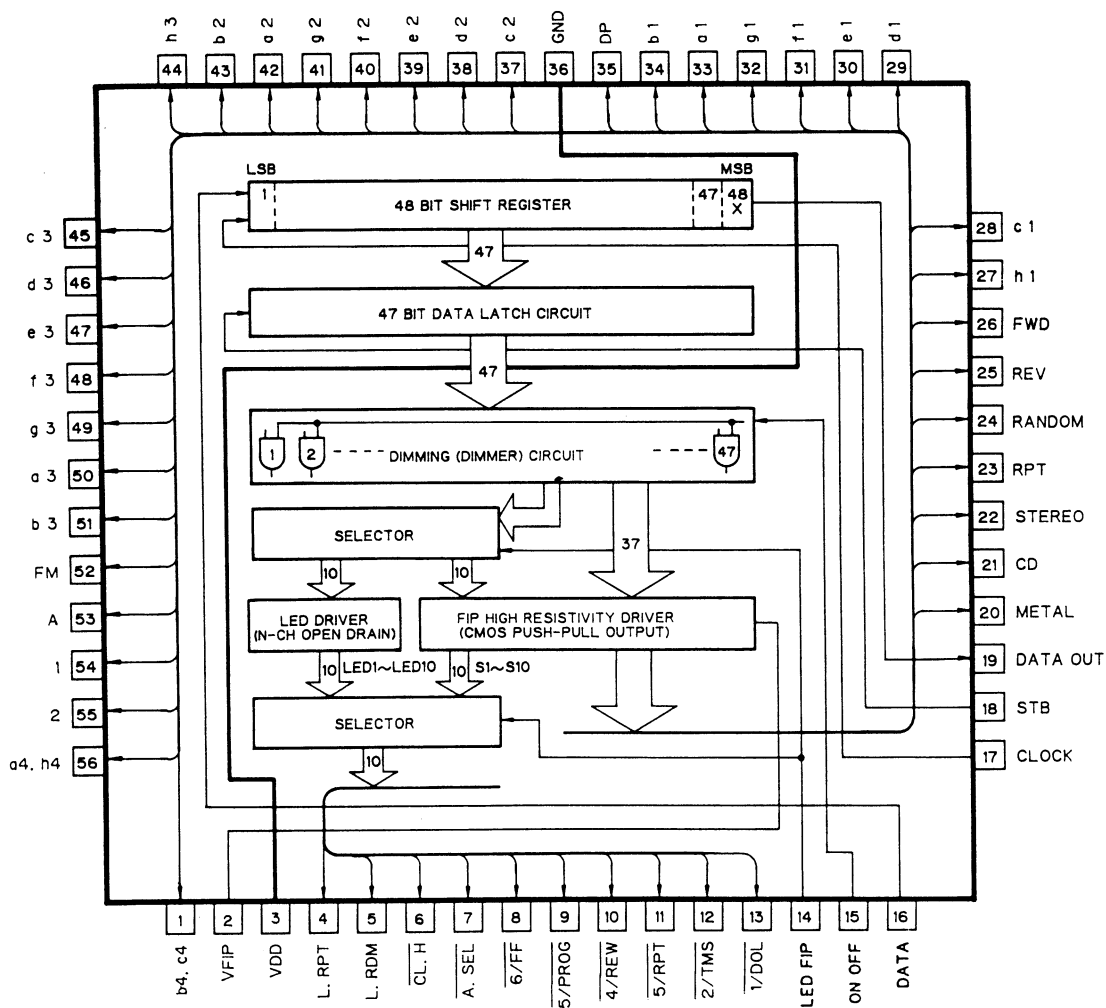


M5237L

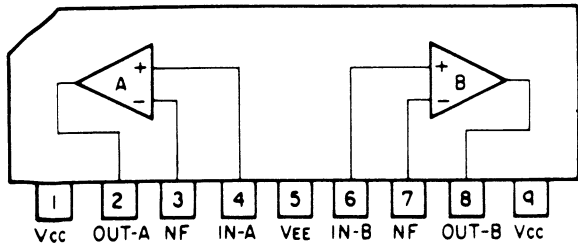


KEH-6261ZH/KEH-7261ZH

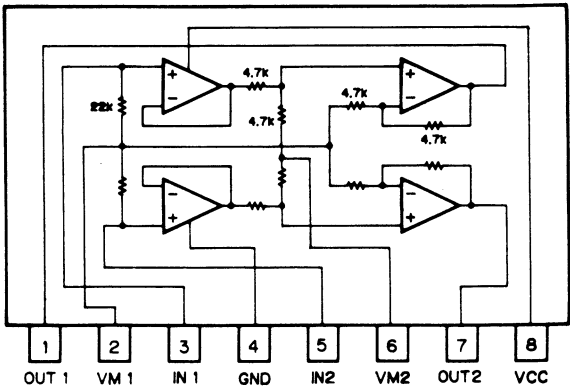
UPD6700GH

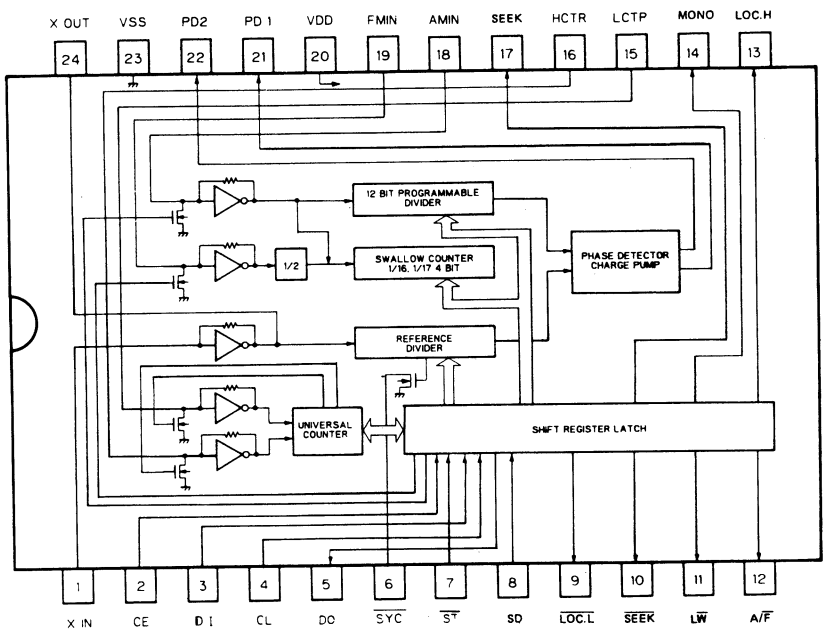


RC2068S



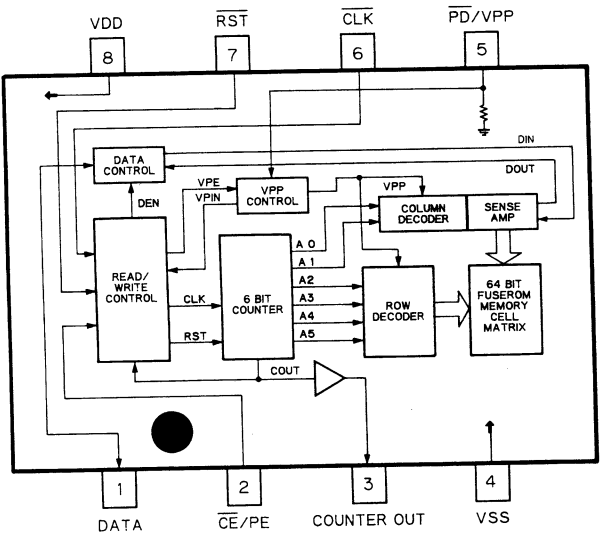
M5280L



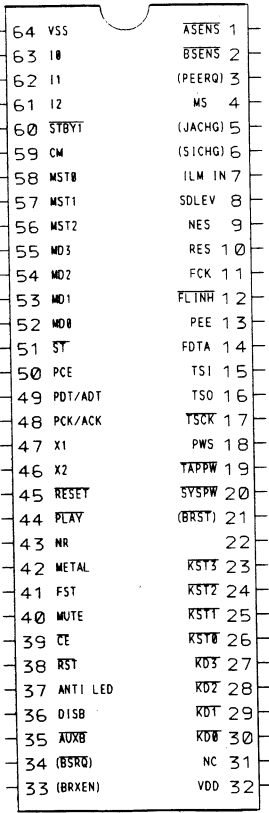


IC's marked by * are MOS type.
Be careful in handing them because they are very liable to be damaged by electrostatic induction.

P-2100R



*PD4331A



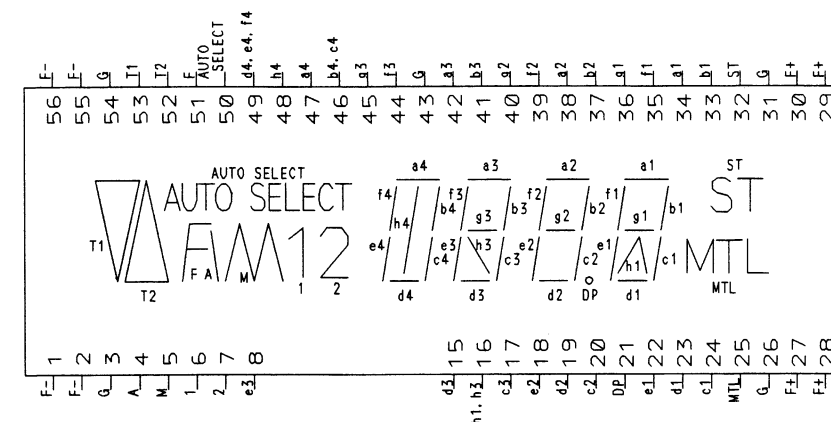
● Pin Functions (PD4331A)

Pin	Pin name	I/O	Output Format	Function
1	ASENS	input		ACC +B sensor input. "L":when ACC ON
2	BSSENS	input		Back Up +B sensor input. "L":when Back Up ON
3	PEERQ	input		PEE request input. Not used.
4	MS	input		MS puls input.
5	JACHG	input		Not used.
6	SICHG	input		Not used.
7	ILM IN	input		Illumination +B input.
8	SDLEV	input		Tuner SD level detector input.
9	NES	input		Reel pulse detector input-forward.
10	RES	input		Reel pulse detector input-reverse.
11	FCK	output	C	FL drive clock signal output.
12	FLINH	output	C	FL driver dimmer output.
13	PEE	output	C	Buzzer On output.
14	FDTA	output	C	FL drive data signal output.
15	TSI	input		Not used.
16	TSO	output	C	Not used.
17	TSCK	output	C	Not used.
18	PWS	input		Power switch detector input.
19	TAPPW	output	NM	Tape deck power output.
20	SYSPW	output	NM	System power(power amp) output.
21	BRST	output	NM	Not used.
22				Not used.
23	KST3			
24	KST0	output	NM	Key strobe signal output.
25				
26				
27	KD3			
28	KDO	input		Key return input.
29				
30				
31	NC			Non connect.
32	VDD			Power supply (+5v).
33	BRXEN	in/out	C	Not used.
34	BSRQ	input		Not used.
35	AUXB	input		AUX input sensor input. "L":AUX operation activated.
36	DISB	output		AUX operation disable output.

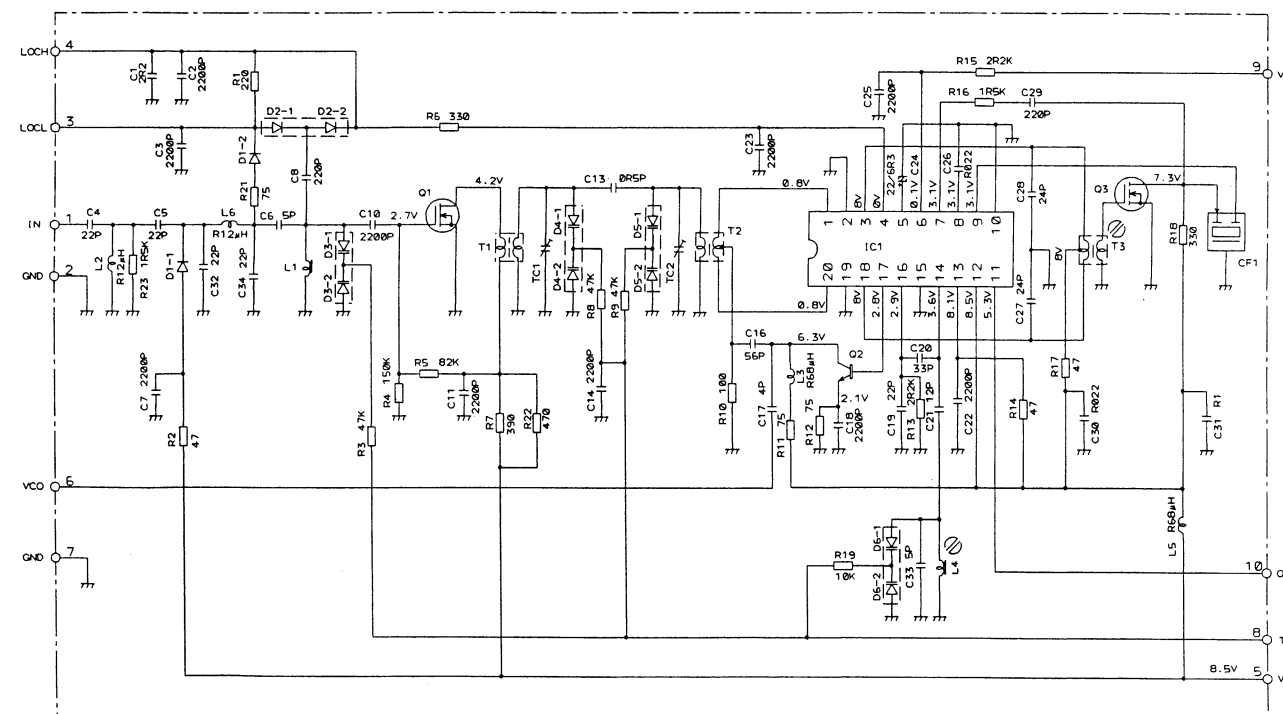
● FL Tube (CAW1129)

Pin	Pin name	I/O	Output Format	Function
37	ANTI LED	output	C	Anti theft LED output.
38	RST	output	C	ROM reset output.
39	CE	output	C	ROM chip enable output.
40	MUTE	output	C	Mute output.
41	FST	output	C	FL strobe signal output.
42	METAL	output	C	Metal output.
43	NR	output	C	Noise reduction output.
44	PLAY	output	C	MS filter switching output.
45	RESET	input		Reset input.
46	X2	output		Oscillator output.
47	X1	input		Oscillator input.
48	PCK/ACK	output	C	PLL clock output/ROM clock output.
49	PDT/ADT	in/out	C	PLL data output/ROM data input.
50	PCE	output	C	PLL chip enable output.
51	ST	input		Stereo input.
52	MD0	input		Deck switch return input.
55	MD3			
56	MST2	output	C	Deck switch strobe output.
58	MST0			
59	CM	output	C	Deck capstan motor control output.
60	STBY1	output	C	Stand-by control for IC801(PA3022).
61	I2	output	C	Control data for IC801(PA3022).
63	I0			
64	VSS			Ground.

Output Format	Meaning
C	C-MOS
N _M	Middle resistivity N channel open drain



● FM Front End (CWB1059)



NOTE:
□ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
—|— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2-2R2
0.022-R022

MOTHER P.C. BOARD

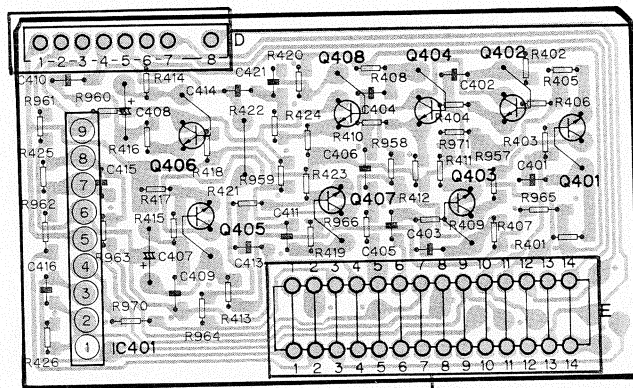
6. CONNECTION DIAGRAM

IC, Q

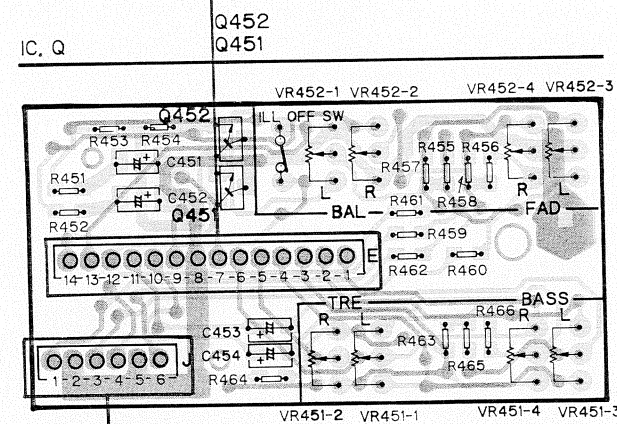
ADJ.

Q509
Q508
Q507Q701
Q502 IC701
Q505 Q501 IC251 IC801Q503 Q702
Q506 Q504
IC801IC753 IC501
Q759 Q802 IC502
Q758 IC752 Q801 Q605Q757
IC751Q755
Q751 Q754 Q752
Q756 Q761 Q760Q604
Q753 IC301Q610
Q607 Q608 Q603 IC754
Q609 IC601 Q601 Q606 IC702
IC851
IC702VR302
VR301

TONE P.C. BOARD

IC, Q IC401 Q406 Q408
Q405 Q407 Q404 Q403 Q402 Q401

BASS/TREBLE P.C. BOARD



TO FM UNIT

TO AM UNIT

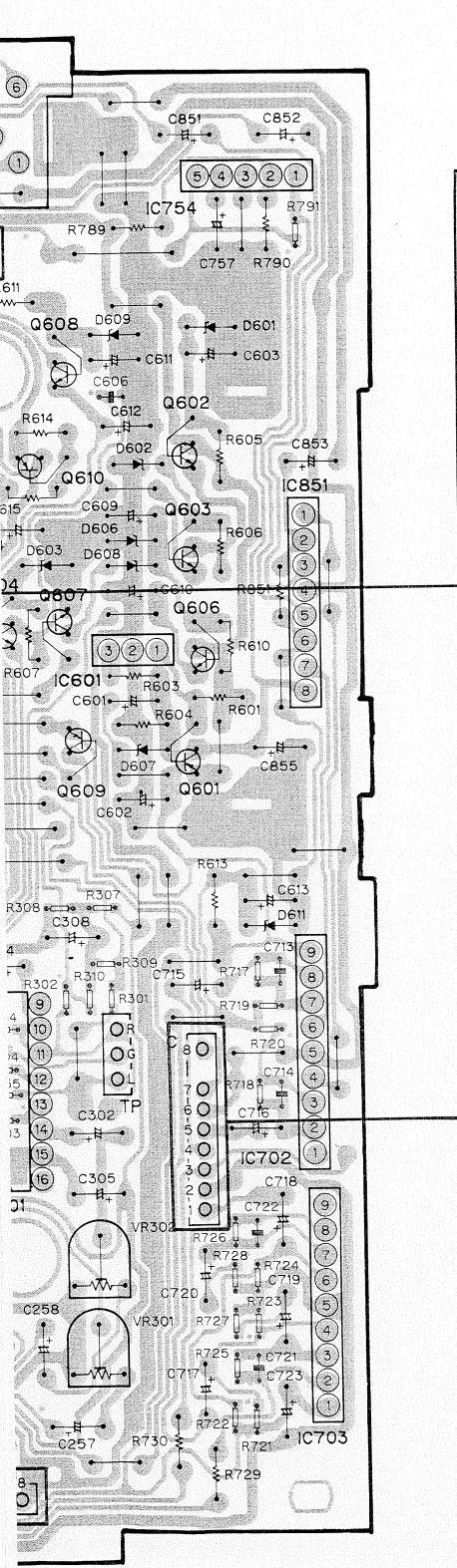
TO CASSETTE
MECHANISM
ASSY

CR751, 753

Q610 Q602 IC851
Q607 Q608 Q603 IC754 IC702
Q609 IC601 Q601 Q606 IC703

VR302
VR301

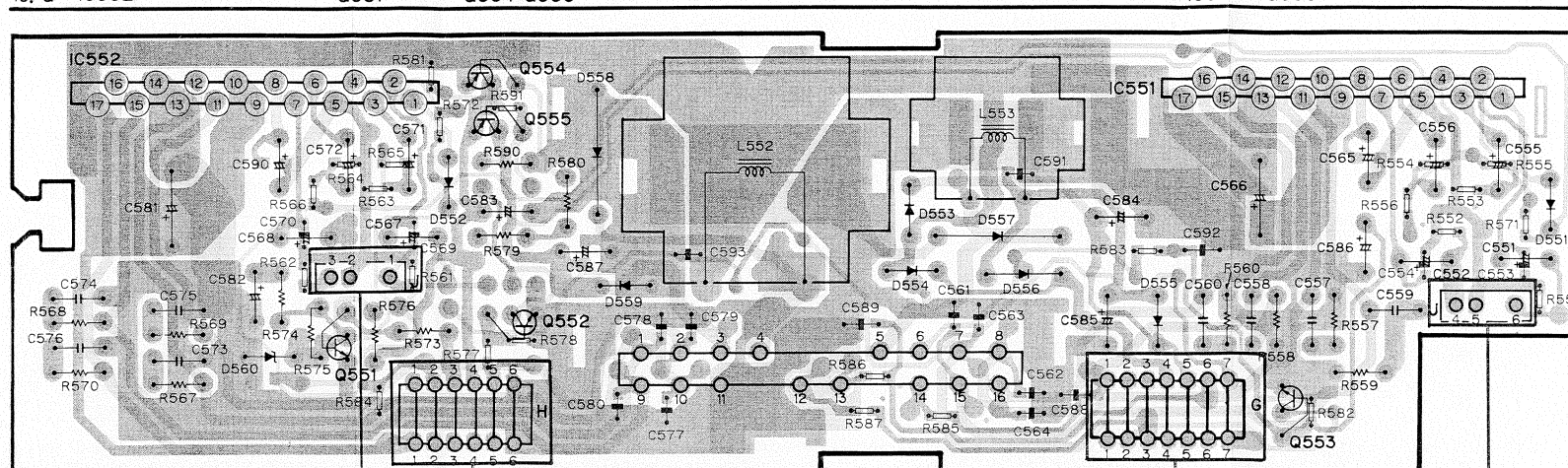
VOLUME P.C. BOARD



AMP UNIT

IC, Q IC552 Q551 Q552 Q554 Q555

IC551 Q553



KEY BOARD P.C. BOARD

IC, Q IC901 Q903 Q902 Q901 Q907
Q906 Q905 Q904

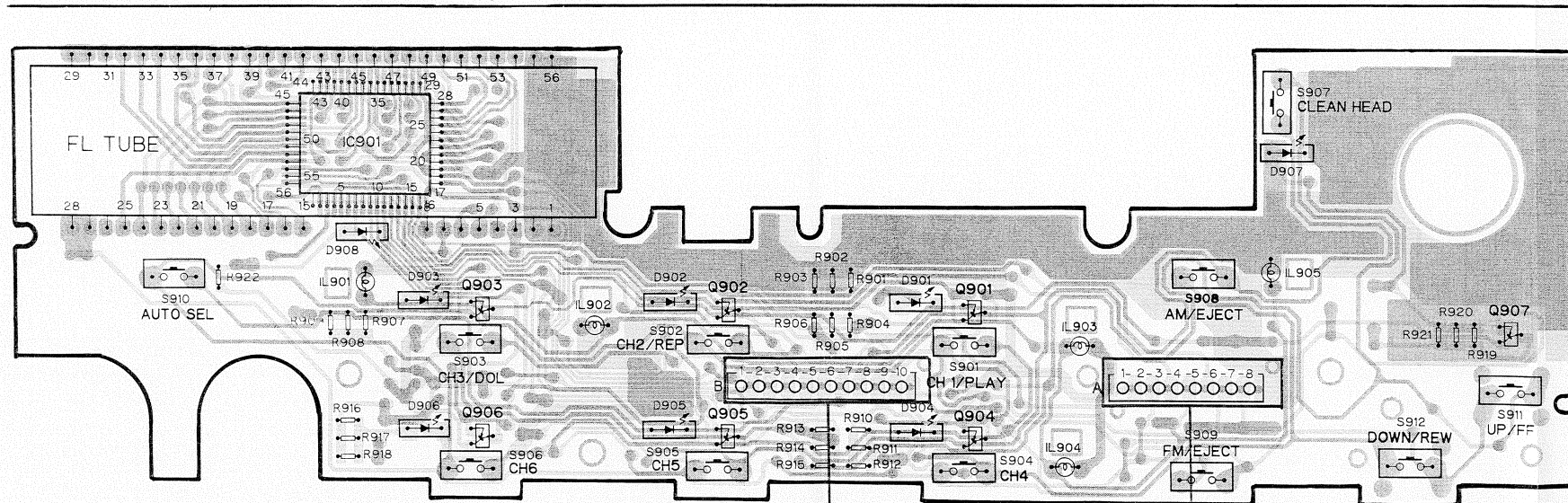
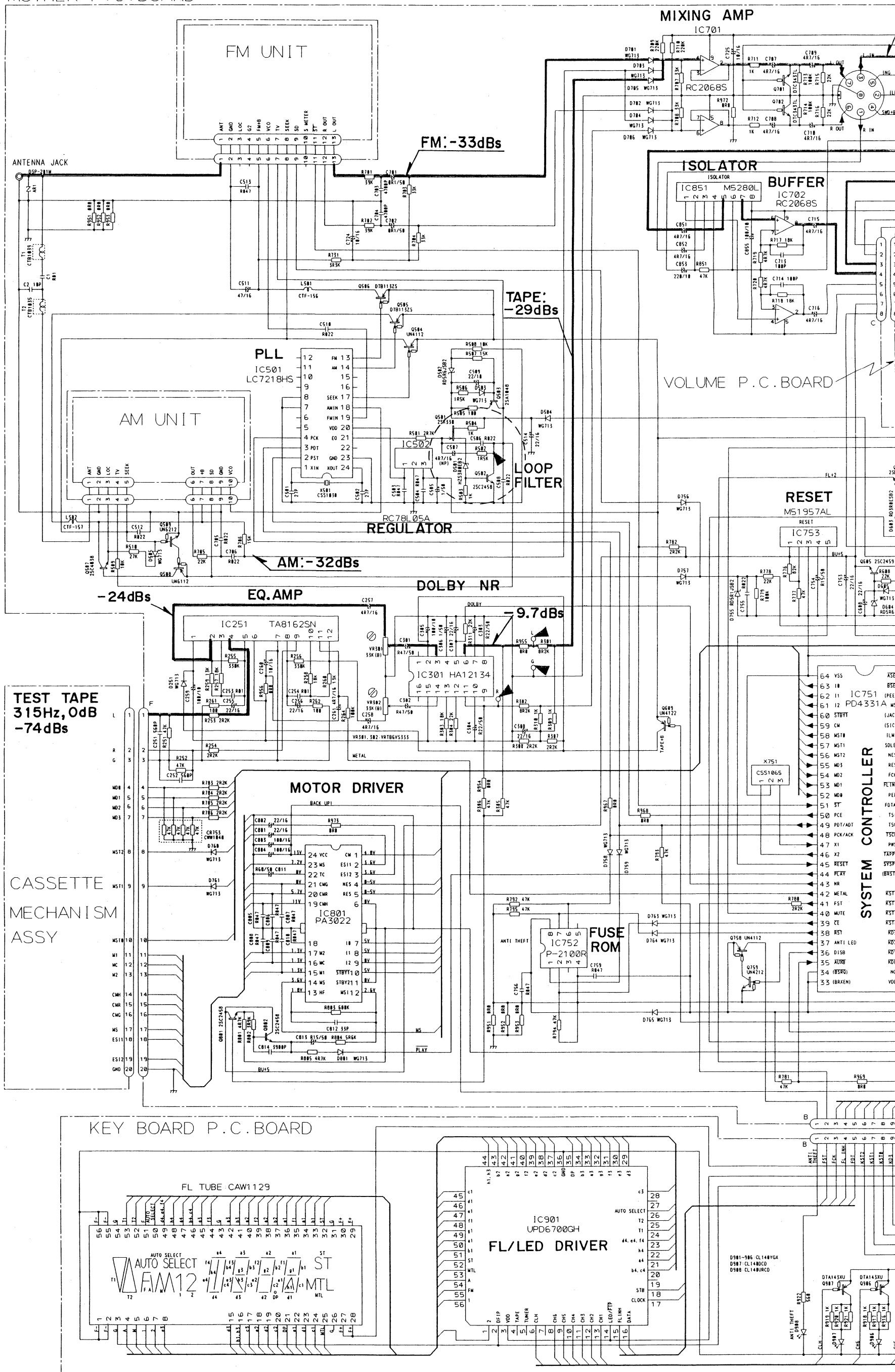
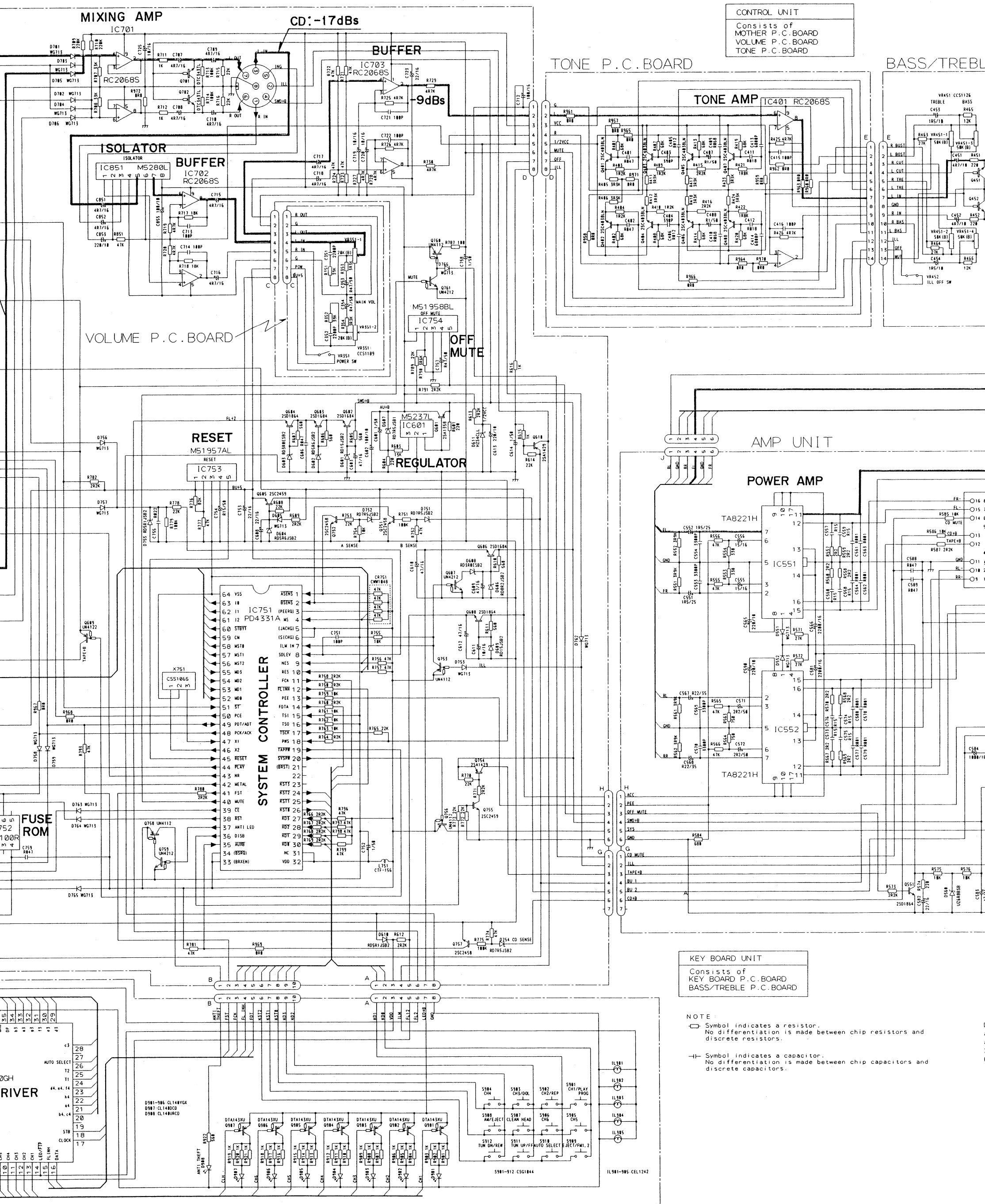


Fig. 8

7. SCHEMATIC CIRCUIT DIAGRAM

MOTHER P.C. BOARD





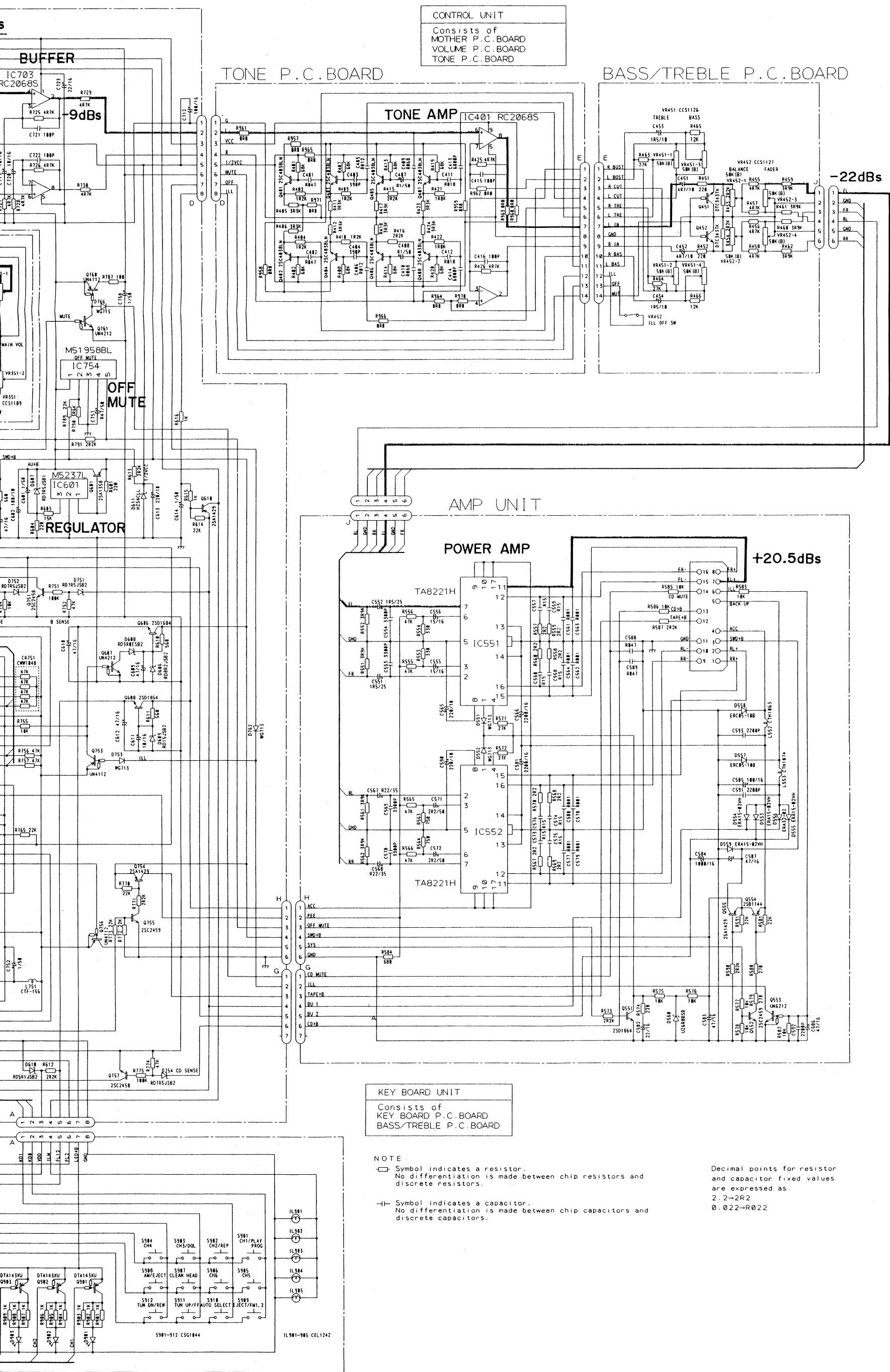
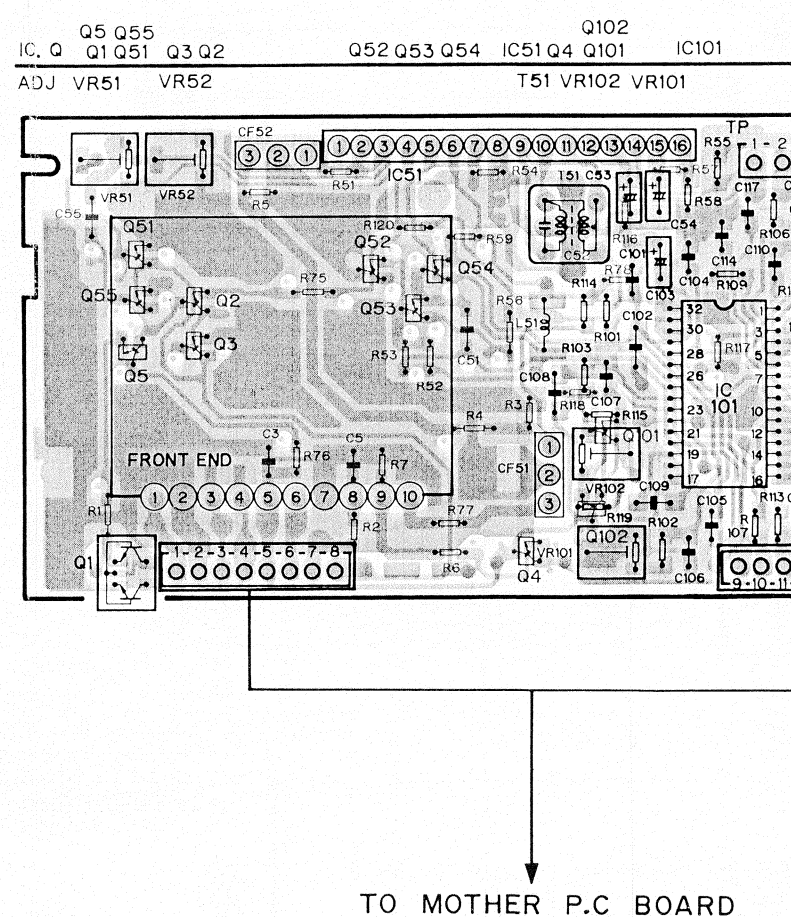
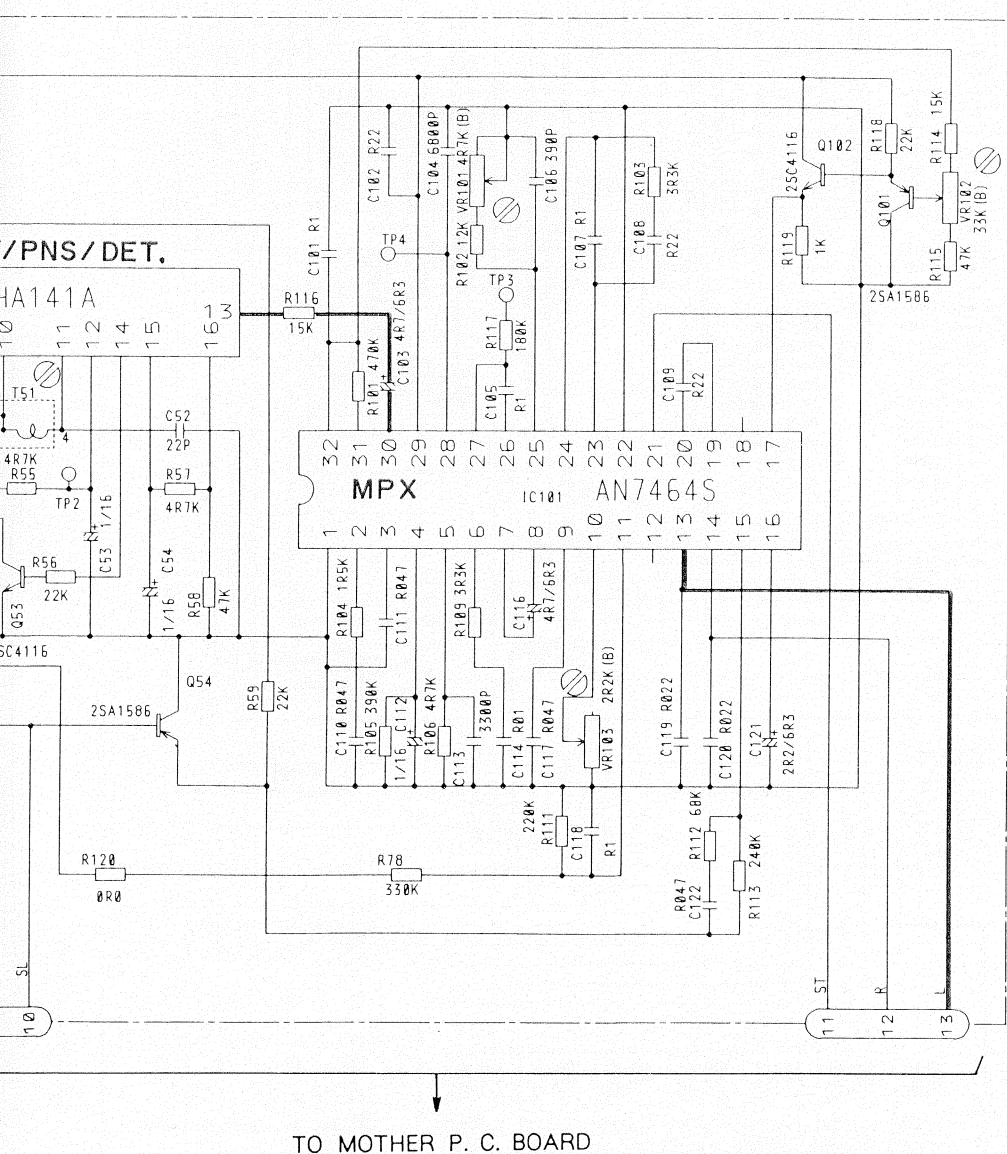
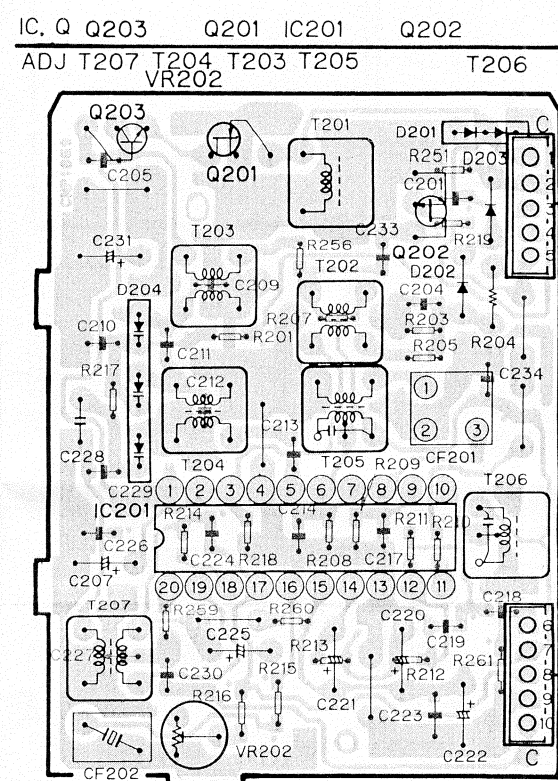
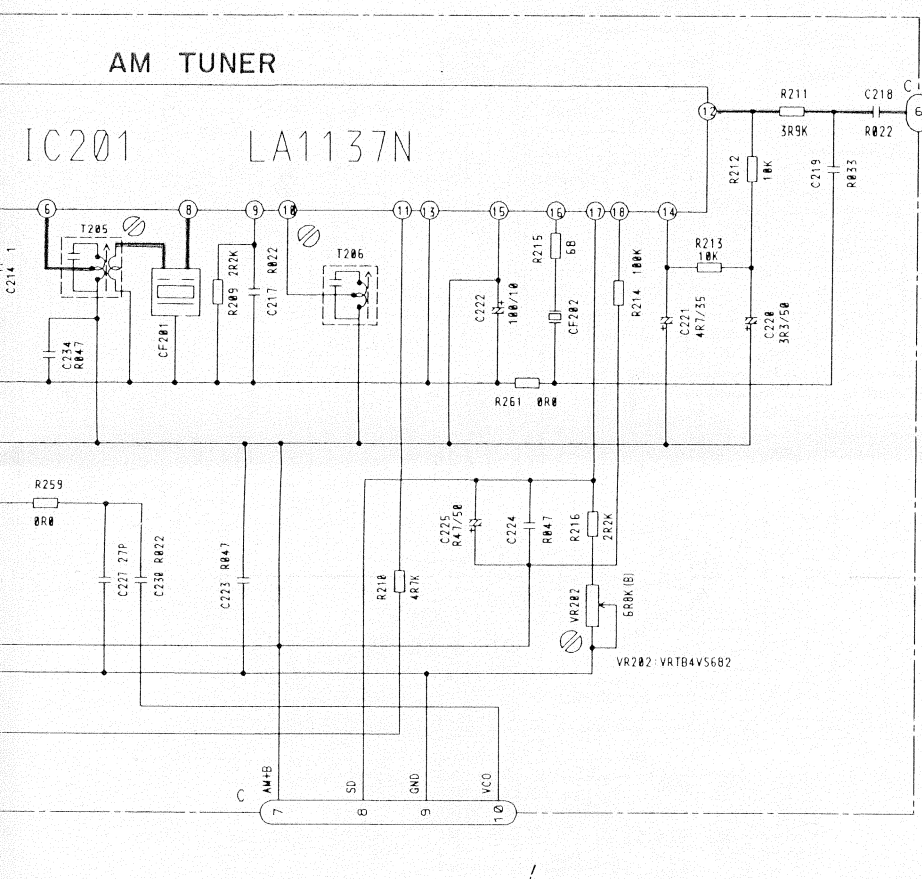
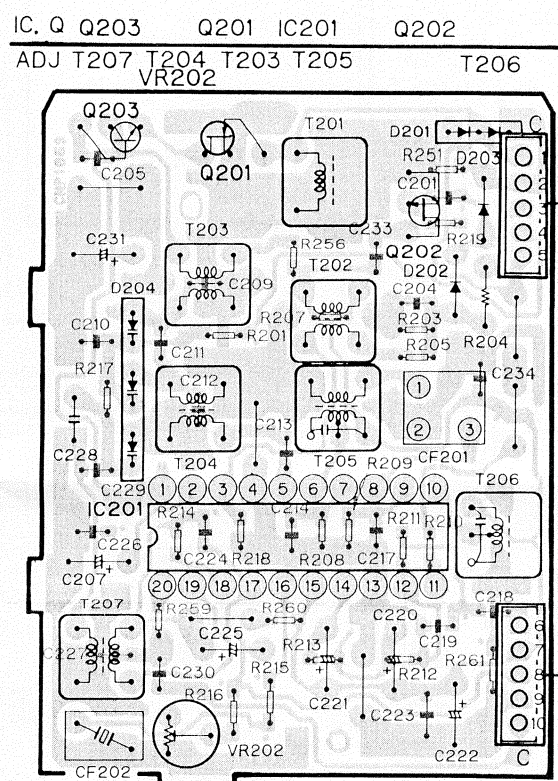


Fig. 9

5

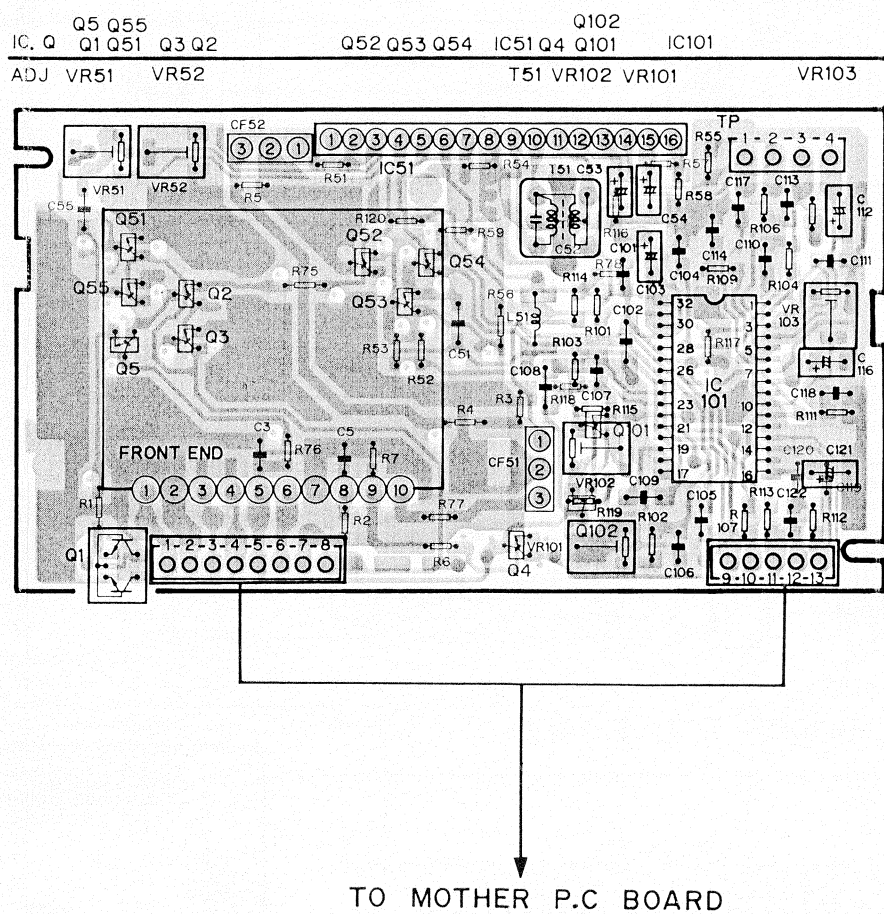
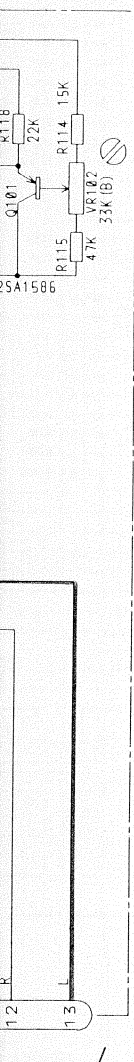




TO MOTHER
P.C BOARD

Fig. 10

Fig. 11



TO MOTHER P.C BOARD

Fig. 13

Fig. 12

● Cassette Mechanism Assy

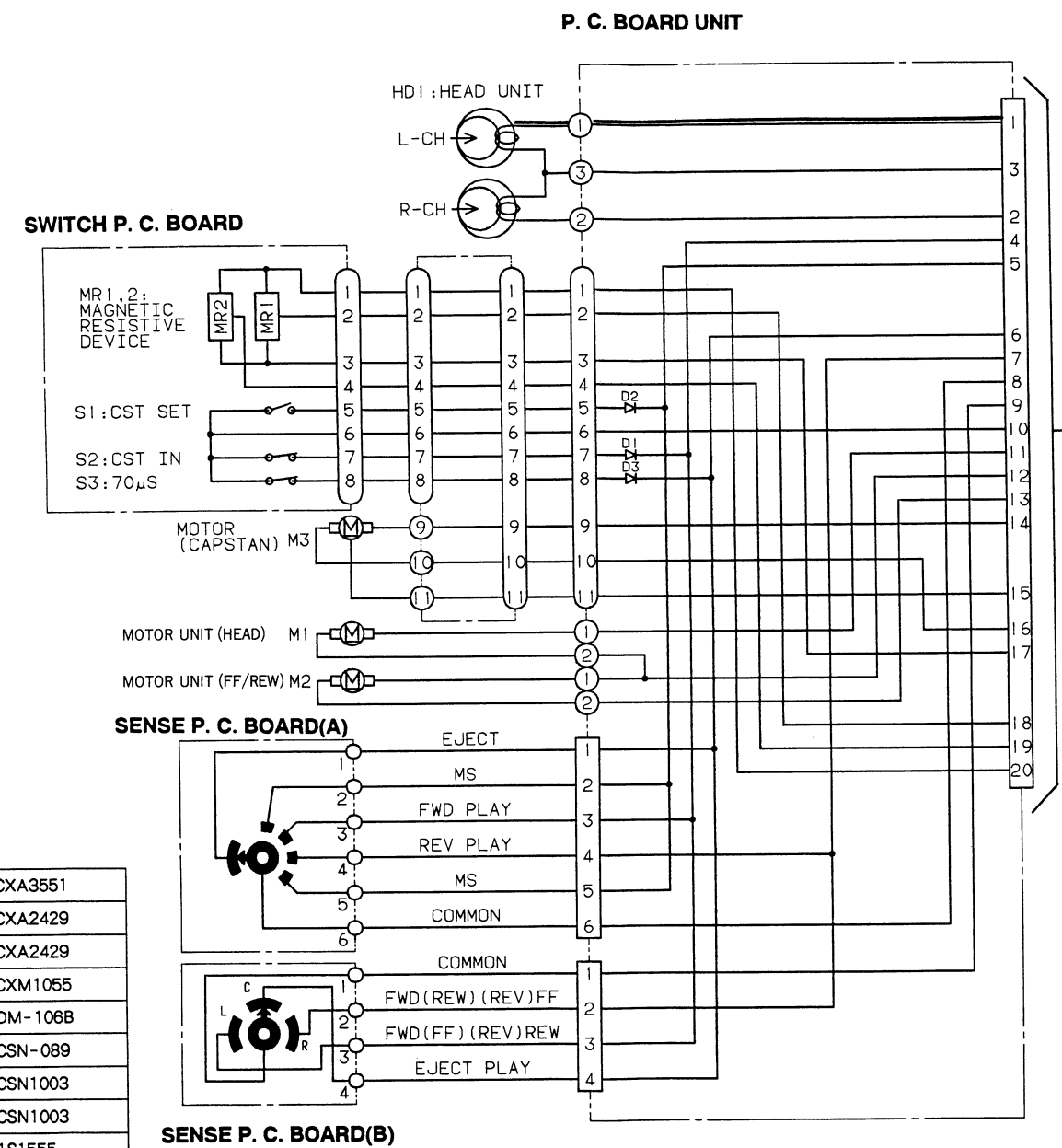
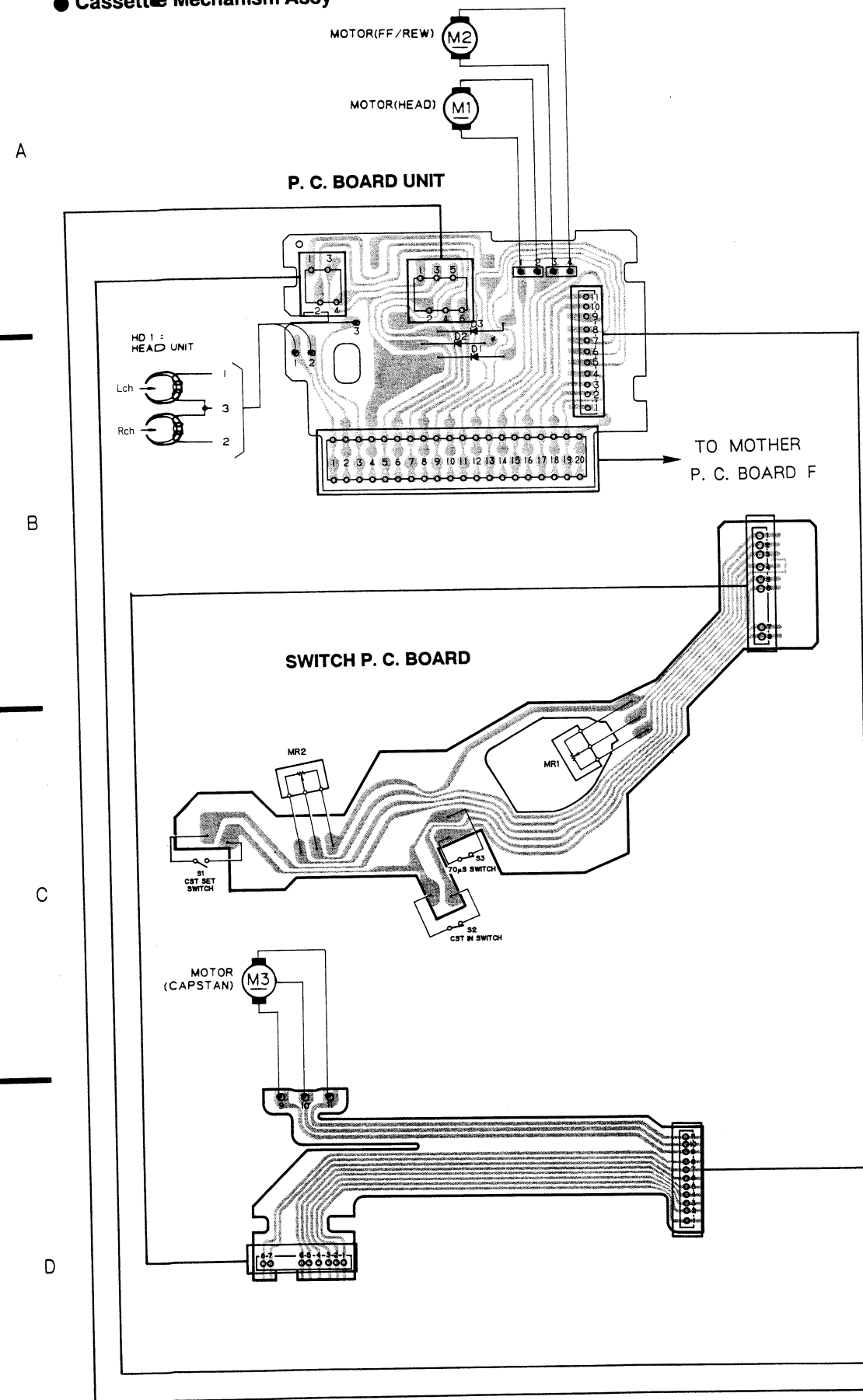


Fig. 14

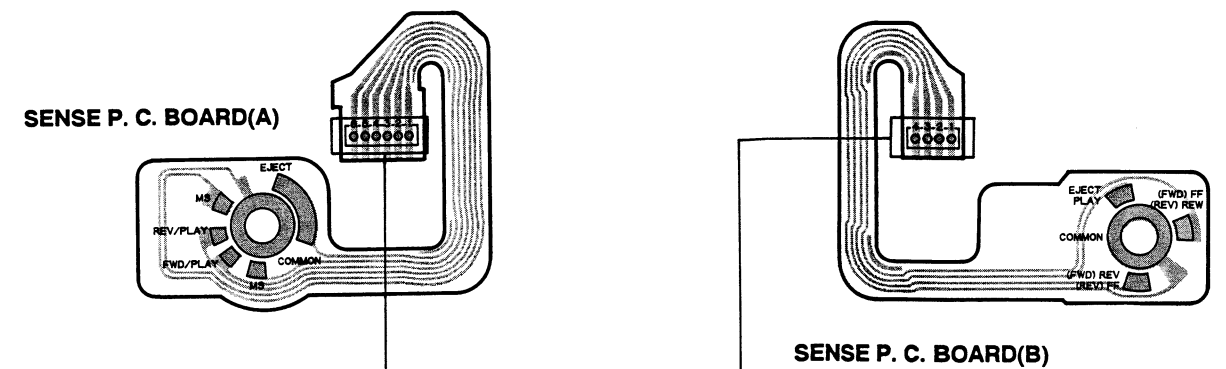


Fig. 15

9. EXPLODED VIEW

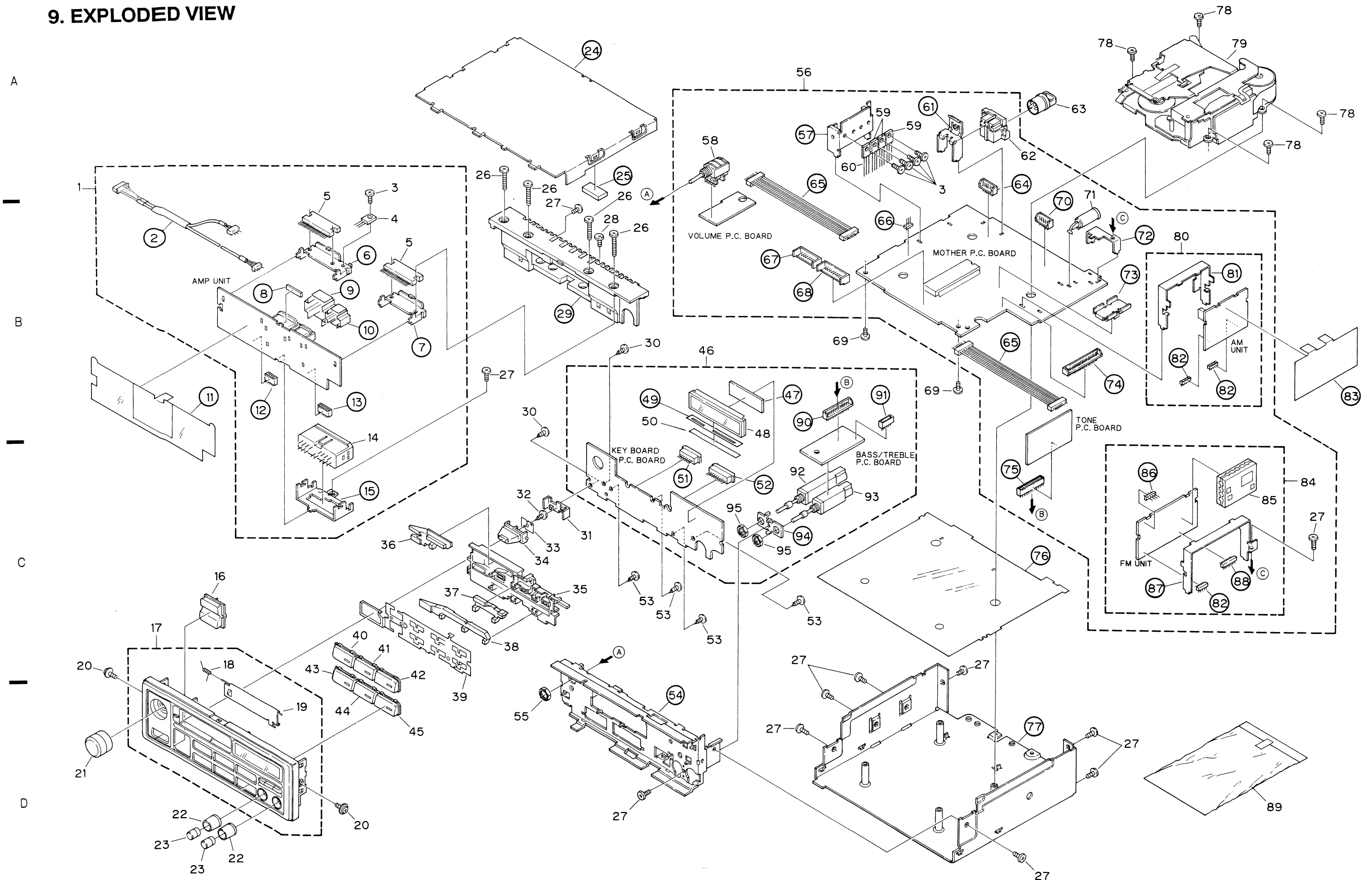


Fig. 16

NOTE:

- The parts marked with "●" may need long time to supply and their supply is subject to refuse as the case may be.
- Because the parts with encircled number shown on the dismantling drawing are not spare parts, we are unable to supply them in principle.

● Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
● 1	Amp Unit	CWH1120	36	Lens	CNV2690
2	Connector	CDE3244	37	Lens	CNV2693
3	Screw	BMZ30P080FMC	38	Lens	CNV2732
4	Transistor	2SB1144	39	Spring	CBL1117
5	IC	TA8221H	40	Button(1)	CAC2830
6	Holder	CNC2427	41	Button(2)	CAC2831
7	Holder	CNC2426	42	Button(3)	CAC2832
8	Spacer	CNM2683	43	Button(4)	CAC2833
9	Shield Case	CNC2429	44	Button(5)	CAC2834
10	Case	CNB1156	45	Button(6)	CAC2835
11	Insulator	CNM2261	● 46	Key Board Unit	CWS1213
12	Connector	CKS-664	47	Cover	CNM3042
13	Connector	CKS-665	48	FL Tube	CAW1129
14	Plug	CKS-711	49	Cover	CNM3042
15	Holder	CNC2551	50	Spacer	CNM1316
16	Button(AM/FM)	CAC2836	51	Plug	CKS1659
17	Grille Assy	CXA4292	52	Connector	CKS1660
18	Spring	CBH1005	53	Screw	CBA1161
19	Door Assy	CXA4303	54	Frame	CNC3595
20	Screw	PMS30P050FMC	55	Nut	NK90FMC
21	Knob	CAA1253	● 56	Control Unit	CWM2647
22	Knob	CAA1164	57	Holder	CNC3855
23	Knob	CAA1163	58	Volume	CCS1189
24	Casec	CNB1545	59	Transistor	2SD1684
25	Cushion	CNM2068	60	Transistor	2SA1358
26	Screw	BMZ30P100FMC	61	Holder	CNC3678
27	Screw	BMZ30P050FMC	62	Connector	CKS1156
28	Screw	BMZ30P060FZK	63	Short Plug	CKM1022
29	Heat Sink	CNR1200	64	Plug	CKS-645
30	Screw	CBA1183	65	Connector	CDE3245
31	Holder	CNV2694	66	Plug	CKS1629
32	Screw	CBA1185	67	Plug	CKS1653
33	Spring	CBL1185	68	Connector	CKS1654
34	Button	CAC2839	69	Screw	CBA1150
35	Holder	CNV2733	70	Plug	CKS-646

Mark No.	Description	Part No.	Mark No.	Description	Part No.
71	Antenna Jack	CKX1006	89-1	ID Card (KEH-6261ZH)	CEE1001
72	Holder	CNC3689		ID Card (KEH-7261ZH)	CEE1002
73	Heat Sink	CNG-368	89-2	Owner's Manual	CRB1220
74	Plug	CKS-659		(KEH-6261ZH)	
75	Connector	CKS-672		Owner's Manual	CRD1523
				(KEH-7261ZH)	
76	Insulator	CNM3062	89-3	Label (KEH-6261ZH)	CAL2306
77	Chassis	CNA1357		Label (KEH-7261ZH)	CAL2371
78	Screw	BMZ26P050FMC	89-4	Polyethylene Bag	CEG1103
● 79	Cassette Mechanism Assy	CXK1678	90	Plug	CKS-653
● 80	AM Unit	CWA1053	91	Plug	CKS1039
81	Holder	CNC2089	92	Volume	CCS1127
82	Plug	CKS1606	93	Volume	CCS1126
83	Insulator	CNM3226	94	Holder	CNC3596
● 84	FM Unit	CWE1230	95	Nut	CBA-067
85	FM Front End	CWB1059			
86	Connector	CKS2084			
87	Holder	CNC3691			
88	Plug	CKS1617			

10. CASSETTE MECHANISM ASSY EXPLODED VIEW

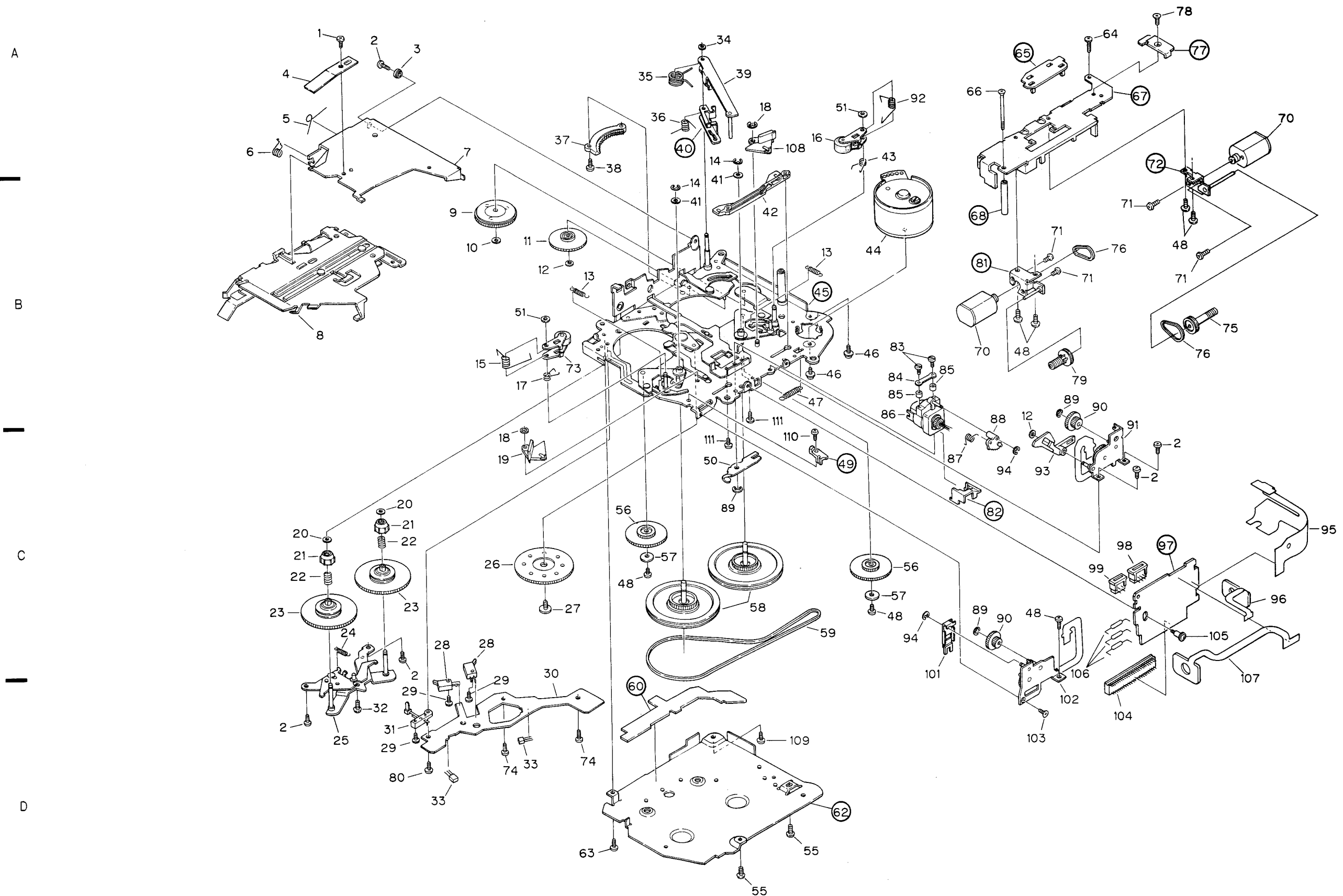


Fig. 17

● Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw (M1.4×1.4)	HBA-147	38	Screw (M2×5)	CBA1054	76	Belt	CNT1030
2	Screw	BMZ20P040FMC	39	Arm Unit	CXA2859	77	Plate	CNC3632
3	Bush	CLB-663	40	Arm	CNG-618	78	Screw	HBA-212
4	Spring	CBE1023				79	Pulley	CNV1256
5	Spring	CBH-867	41	Washer	HBH-179	80	Screw (M2×5)	CBA1054
			42	Lever	CNV1257			
6	Spring	CBH-837	43	Spring	CBH1196	81	Bracket Unit	CXA2606
7	Arm	CNC2373	44	Motor (Capstan)	CXM1055	82	Cover	CNV1489
8	Holder Unit	CXA2858	45	Chassis Unit	CXA3544	83	Screw (M1.4×8)	CBA1055
9	Gear Unit	CXA4022				84	Spring	CBE-114
10	Washer	CBF1026	46	Screw	PMS26P025FMC	85	Azimuth Rubber	CNY-134
			47	Spring	CBH-830			
11	Gear	CNY-271	48	Screw (M2×2.5)	HBA-175	86	Head Unit	CXA3551
12	Washer	CBF-126	49	Spacer	CNW-945	87	Spring	CBH-829
13	Spring	CBH-835	50	Spring	CBL1050	88	Gear	CNW-939
14	E Type Washer	CBG1003				89	E Type Washer	YE12FUC
15	Spring	CBH1277	51	Washer	CBF1025	90	Gear	CNV1262
			52	.....			
16	Pinch Roller Unit	CXA2608	53	.....		91	Holder Assy	CXA1546
17	Spring	CBH1197	54	.....		92	Spring	CBH1276
18	E Type Washer	YE25FUC	55	Screw	BMZ20P030FMC	93	Arm	CNV1495
19	Arm	CNV1254				94	E Type Washer	YE15FUC
20	Washer	CBF1022	56	Gear	CNV1616	95	P.C. Board	CNP1227
			57	Collar	CLA1238			
21	Collar	CNW-932	58	Flywheel	CNV1572	96	P.C. Board	CNP1738
22	Spring	CBH-827	59	Belt	CNT-111	97	P.C. Board	CNP1851
23	Reel Unit	CXA2089	60	Insulator	CNM2592	98	Connector (6P)	CKS1075
24	Spring	CBH-868				99	Connector (4P)	CKS1073
25	Bracket Unit	CXA1481	61	.....		100	.....
			62	Cover	CNC2829			
26	F/R Gear	CNW-944	63	Screw	BMZ20P030FMC	101	Arm	CNH-004
27	Screw	CBA1106	64	Screw (M1.7×3)	CBA1125	102	Holder Assy	CXA1548
28	Switch (70μS, CST IN)	CSN1003	65	Holder	CNV1252	103	Screw (M2×2)	HBA-209
29	Screw (M1.7×5.5)	CBA1025				104	Connector (20P)	CKS-678
30	P.C. Board	CNP1223	66	Screw (M2×25)	CBA-165	105	Screw (M2×2×3)	CBA1022
			67	Guide	CNC2219			
31	Switch (CST SET)	CSN-089	68	Spacer	CNC1651	106	Diode	1S1555
32	Screw (M1.7×3)	CBA-186	69	.....		107	P.C. Board	CNP2110
33	Magnetic Resistive Device	DM-106B	70	Motor Unit	CXA2429	108	Arm	CNV1253
				(FF/REW. Head Position)		109	Screw (M2×7)	CBA1072
34	Washer	CBF-046	71	Screw	HBA-174	110	Screw (M2×4)	CBA1015
35	Spring	CBH1270	72	Bracket Unit	CXA2605			
			73	Pinch Roller Unit	CXA2609	111	Screw (M2×2.5)	CBA1041
36	Spring	CBH-886	74	Screw (M2×2.5)	CBA1037			
37	Gear	CNV1075	75	Pulley	CNV1255			

11. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
 - The part numbers shown below indicate chip components.
- Chip Resistor
RS1/8S□□□J, RS1/10S□□□J
Chip Capacitor (except for CQS.....)
CKS....., CCS....., CSZS.....

Unit Number :
Unit Name : AM Unit

MISCELLANEOUS

==== Circuit Symbol & No. === Part Name	Part No.
IC 201	LA1137N
Q 201	2SK435
Q 202	2SJ107
Q 203	2SC2458
D 201	MA177
D 202 203	1SS133
D 204	Variable Capacitance Diode KV1235Z3
T 201	Coil CTB-171
T 202	Coil CTB1081
T 203 204	Coil CTB1041
T 205	Coil CTE1036
T 206	Coil CTE1029
T 207	Coil CTB1042
CF 201	Filter CTF-100
CF 202	Ceramic Resonator CTF-247
VR 202	Volume 6.8kΩ (B) VRTB4VS682

RESISTORS

==== Circuit Symbol & No. === Part Name	Part No.
R 201	RS1/8S103J
R 203	RS1/10S513J
R 204	RD1/4PS103JL
R 205	RS1/10S511J
R 207	RS1/10S331J
R 208	RS1/10S394J
R 209	RS1/10S222J
R 210	RS1/10S472J
R 211	RS1/10S392J
R 212 213 218	RS1/10S103J
R 214	RS1/10S104J
R 215	RS1/8S680J
R 216	RS1/8S222J
R 217	RS1/10S473J
R 219	RS1/10S474J
R 251 256 259 260	RS1/10S0R0J
R 261	RS1/8S0R0J

CAPACITORS

==== Circuit Symbol & No. === Part Name	Part No.
C 201	CKSQYB222K50
C 204 217 218 230	CKSQYB223K25
C 205	CCSQCH220J50
C 207	CEA10M50LS2
C 209 212	CCSQJ040C50

==== Circuit Symbol & No. === Part Name	Part No.
C 210 233	CKSQYB273K25
C 211	CCSQCH010C50
C 213	CKSQYB103K50
C 214	CKSYF10S225
C 219	CKSQYB333K25
C 220	CEA3R3M50LS
C 221	CEA4R7M35LS
C 222	CEA10M10LS
C 223 234	CKSYB473K25
C 224	CKSQYF473225
C 225	CEAR47M50LS2
C 226	CCSQCH120J50
C 227	CCSQSL270J50
C 228	COPA431G2A
C 229	CCSORH560J50
C 231	CEA470M16LS

Unit Number :
Unit Name : FM Unit

MISCELLANEOUS

==== Circuit Symbol & No. === Part Name	Part No.
IC 51	XHA141A
IC 101	AN7464S
Q 1	Chip Transistor FMW2
Q 2	Chip Transistor UN5112
Q 3 51 55	Chip Transistor UN5212
Q 4 5 53 102	Chip Transistor 2SC4116
Q 52 54 101	Chip Transistor 2SA1586
L 51	Inductor CTF1104
T 51	Coil CTC1029
CF 51	Ceramic Filter CTF1144
CF 52	Ceramic Filter CTF1145
VR 51 52	Semi-fixed 22kΩ (B) CCP1021
VR 101	Semi-fixed 4.7kΩ (B) CCP1017
VR 102	Semi-fixed 33kΩ (B) CCP1022
VR 103	Semi-fixed 2.2kΩ (B) CCP1015
	FM Front End CWB1059

RESISTORS

==== Circuit Symbol & No. === Part Name	Part No.
R 1	RS1/8S681J
R 2 7 53	RS1/10S103J
R 3 5	RS1/10S222J
R 4	RS1/8S101J
R 6	RS1/10S101J
R 51	RS1/10S331J
R 52 57	RS1/10S472J
R 54	RS1/10S223J
R 55	RS1/10S472J
R 56	RS1/8S223J

==== Circuit Symbol & No. === Part Name	Part No.
R 58	RS1/8S473J
R 59 118	RS1/10S223J
R 75	RS1/8S0R0J
R 76 77	RS1/10S0R0J
R 78	RS1/10S334J
R 101	RS1/10S474J
R 102	RS1/10S123J
R 103 109	RS1/10S332J
R 104	RS1/10S682J
R 105	RS1/10S394J
R 106	RS1/10S472J
R 111	RS1/10S224J
R 112	RS1/10S683J
R 113	RS1/10S244J
R 114	RS1/10S153J
R 115	RS1/10S473J
R 116	RS1/10S153J
R 117	RS1/10S184J
R 119	RS1/10S102J
R 120	RS1/10S0R0J

CAPACITORS

==== Circuit Symbol & No. === Part Name	Part No.
C 3	CKSQYB473K25
C 5	CKSQYB103K50
C 51 55	CKSYB104K25
C 52	CCSQCH220J50
C 53 54 112	CSZS010M16
C 101 105 107 118	CKSQYB104K25
C 102 108 109	CKSYB224K25
C 103 116	CSZS4R7M6R3
C 104	CKSQYB682K50
C 106	CCSQSH391J50
C 110 111 122	CKSQYB473K25
C 113	CKSQYB332K50
C 114	CKSQYB103K50
C 117	CKSQYB473K25
C 119 120	CKSQYB223K25
C 121	CSZS2R2M6R3

Unit Number :
Unit Name : Amp Unit

MISCELLANEOUS

==== Circuit Symbol & No. === Part Name	Part No.
IC 551 552	TA8221H
Q 551	2SD1864
Q 552	2SC2459
Q 553	UN6212
Q 554	2SB1144
Q 555	2SA1429
D 551 552	WQ713
D 553 554 555 559	ERA15-02VH
D 556	ERA32-02
D 557 558	ERC05-10B
D 560	UZ6R8BS8
L 552	Choke Coil CTH1063
L 553	Choke Coil CTH1074

RESISTORS

==== Circuit Symbol & No. === Part Name	Part No.
R 551 552 561 562	RS1/10S392J
R 553 554	RS1/10S331J
R 555 556 565 566	RS1/10S473J
R 557 558 559 560	RD1/4PS2R2JL
R 563 564	RS1/10S751J
R 567 568 569 570	RD1/4PS2R2JL
R 571 572	RS1/10S273J
R 573 590	RD1/4PS222JL
R 574	RD1/4PS221JL
R 575 576	RD1/4PS103JL
R 577 578	RS1/10S103J
R 579 580	RD1/4PS271JL
R 581 591	RS1/10S223J
R 582 583 585 586	RS1/10S103J
R 584	RS1/10S681J
R 587	RS1/8S222J

CAPACITORS

==== Circuit Symbol & No. === Part Name	Part No.
C 551 552	CSZ1R5M25
C 553 554 569 570	CKSQYB332K50
C 555 556	CEA150M16LS
C 557 558 559 560	CQEA154J63
C 561 562 563 564	CKSQYB102K50
C 565 590	CEA221M10L2
C 566 581	CCH-123
C 567 568	CSZAR22M35
C 571 572	CEA2R2M50LS2
C 573 574 575 576	CQEA154J63
C 577 578 579 580	CKSQYB102K50
C 582	CEA220M16L2
C 583 586 587	CEA470M16L2
C 584	CCH1003
C 585	CEA101M16L2
C 588 589	CKSYB473K25
C 591 592 593	CKSQYB222K50

Control Unit

Consists of
• Mother P.C. Board
• Tone P.C. Board
• Volume P.C. Board

Unit Number :
Unit Name : Control Unit

MISCELLANEOUS

==== Circuit Symbol & No. === Part Name	Part No.
IC 251	TA8162SN
IC 301	HA12134
IC 401 701 702 703	RC2068S
IC 501	LC7218HS
IC 502	RC78L05A
IC 601	M5237L
IC 751	PD4331A
IC 752	P-2100R
IC 753	M51957AL
IC 754	M51958BL

==== Circuit Symbol & No. === Part Name	Part No.
IC 801	PA3022
IC 851	M5280L
Q 401 402 403 404 405 406 407 408	2SC4038LN
Q 501	2SK330
Q 502	2SC2458
Q 503	2SA1048
Q 504 753 756 760	UN4112
Q 505 506	DTB113ZS
Q 507	2SC4038
Q 508	UN6112
Q 509	UN6212
Q 601	2SA1358
Q 602 603 606	2SD1684
Q 604 608	2SD1864
Q 605 755	2SC2459
Q 607	UN4212
Q 609	UN4122
Q 610 754	2SA1429
Q 701 702	DTC343TL
Q 751 752 757 801 802	2SC2458
Q 758	UN4112
Q 759 761	UN4212
D 251	WG713
D 501	HZS3R0EB2
D 502	RD5R6JSB2
D 503 504 505	WG713
D 601 609	RD15JSB2
D 602 604	RD5R6JSB2
D 603 608	RD3R0ESB2
D 605 763 764 765 766 801	WG713
D 606	RD8R2JSB2
D 607	RD7R5JSB1
D 610 755	RD5R1JSB2
D 611	HZS4CLL
D 701 702 703 704 705 706	WG713
D 751 752 754	RD7R5JSB2
D 753 756 757 758 759 760 761 762	WG713
L 501 751	CTF-156
L 502	CTF-157
T 1	CTB1039
T 2	Coil
CR 751 753	Coil
X 501	Crystal Resonator
X 751	Ceramic Resonator
VR 301 302	Semi-fixed 33kΩ (B)
VR 351	Volume/Switch 20kΩ (B)
AR 1	Surge Protector

RESISTORS

==== Circuit Symbol & No. === Part Name	Part No.
R 251 252	RS1/10S473J
R 253 254 307 308	RS1/10S222J
R 255 256	RS1/10S334J
R 257 258 303	RS1/10S183J
R 259 260	RS1/10S133J
R 261 262	RS1/10S181J
R 264	RD1/4PS104JL
R 301 302	RS1/10S822J
R 304	RD1/10S223J
R 305 306	RD1/4PS473JL

==== Circuit Symbol & No. === Part Name	Part No.
R 309 310	RS1/10S102J
R 311	RD1/4PS223JL
R 351 352	RS1/10S393J
R 353 354	RD1/4PS332JL
R 401 402 407 408 413 414 419 420	RS1/10S683J
R 403 404 409 410	RS1/10S122J
R 405 406 411 412 417 418 423 424	RS1/10S332J
R 415 416	RS1/10S222J
R 421 422	RS1/10S182J
R 425 426	RS1/10S472J
R 501	RD1/4PS272JL
R 502 506	RD1/4PS152JL
R 503 504	RD1/4PS102JL
R 505	RD1/4PS101JL
R 507	RD1/4PS153JL
R 508	RD1/4PS103JL
R 509	RS1/10S103J
R 510	RS1/10S273J
R 601	RD1/4PS221JL
R 603	RD1/4PS153JL
R 604	RD1/4PS221JL
R 605 606 607 610 611	RD1/4PS561JL
R 608 614 753 770 772 773 789	RD1/4PS223JL
R 609 612 613 764 771 783 784 785 786	RD1/4PS222JL
R 615 616	RD1/4PS102JL
R 701 702	RS1/10S393J
R 703 704	RS1/10S333J
R 705 765	RS1/10S223J
R 706 755	RS1/10S153J
R 707 708	RS1/10S333J
R 709 710	RD1/4PS224JL
R 711 712	RS1/10S102J
R 713 714	RS1/10S104J
R 715 716	RS1/10S223J
R 717 718	RS1/10S183J
R 719 720 725 726 727 728	RS1/10S472J
R 721 722 723 724	RS1/10S473J
R 729 730	RD1/4PS472JL
R 731	RD1/4PS332JL
R 750 758 760 780 791	RS1/10S222J
R 751 775 779	RD1/4PS104JL
R 752 774	RD1/4PS473JL
R 754 759 761 762 763	RD1/4PS103JL
R 756 757 781	RS1/10S473J
R 766 767 768 769	RS1/8S222J
R 776	RD1/4PS823JL
R 777	RD1/4PS473JL
R 778	RS1/10S223J
R 782	RD1/4PS222JL
R 787	RS1/10S101J
R 790	RD1/4PS362JL
R 792 793 794 795 796 797 798 799	RS1/10S473J
R 801 805	RS1/10S472J
R 802	RS1/10S392J
R 803	RS1/10S684J
R 804	RD1/4PS562JL
R 851	RD1/4PS473JL
R 951 952 953 954 955 962 965 970	RS1/8S0R0J
R 956 957 958 959 960 961 963 964 966	RS1/10S0R0J
R 967 968 969 971 972 973	RS1/10S0R0J

EH-6261ZH/KEH-7261ZH

CAPACITORS

==== Circuit Symbol & No. ===	Part Name	Part No.
C 1		CKSQYB103K50
C 2		CCSQCH100D50
C 251 252		CKSQYB561K50
C 253 254		CKSQYB103K50
C 255 256 307 308		CEA220M16LS
C 257 258 261		CEA4R7M16LS2
C 259 305		CEA101M10LS
C 260		CEA100M16LS2
C 301 302 351 352		CKSQYB222J50
C 303 304		CEAR22M50LS2
C 306		CEA010M50LS2
C 353 354		CEAR47M50LS2
C 401 402		CKSQYB473K25
C 403 404		CKSQYB391K50
C 405		CKSQYB123K50
C 406		CKSYB123K50
C 407 408		CEA0R1M50LS2
C 409 410		CKSYB683K25
C 411 412		CKSQYB183K25
C 413 414		CKSQYB682K50
C 415 416		CCSQCH101J50
C 501 502		CCSQCH270J50
C 503 504		CKSQYB473K25
C 505		CEA010M50LS2
C 506 510 512		CKSQYB223K25
C 507	4.7 μ F/16V	CCH1005
C 508		CKSYB223K50
C 509		CEA220M10LS
C 511		CEA470M16LS
C 513 606 756 759		CKSQYB473K25
C 514		CEA220M16LS
C 601		CEA010M50L2
C 602		CEA101M10L2
C 603 609 610 612		CEA470M16L2
C 608 801 802		CEA220M16LS
C 611		CEA100M16L2
C 613		CEA221M10L2
C 614 752 758		CEA010M50LS2
C 701 702		CEA0R1M50LS2
C 703 704		CKSQYB472K50
C 705 706 755		CKSQYB223K25
C 707 708 709 710 715 716 717 718 851 852		CEA4R7M16LS2
C 712		CEA101M16LL
C 713 714 721 722		CCSQCH101J50
C 719 720		CEA100M16LS2
C 723		CEA220M16LS
C 724 725		CEA100M16LS2
C 751		CCSQCH101J50
C 753		CEA220M16LS
C 754 813		CEAR15M50LS2
C 757		CEAR47M50LS2
C 803 804		CEA101M16LL
C 805 806 807 808 809 810		CKSQYF473225
C 811		CEAR68M50LS2
C 812		CCSQCH330J50
C 814		CKSQYB392K50
C 853		CEA221M10L2
C 855		CEA101M10L2

Key Board Unit

Consists of
 • Key Board P.C. Board
 • Bass/Treble P.C. Board

Unit Number :
 Unit Name : Key Board Unit

MISCELLANEOUS

==== Circuit Symbol & No. ===	Part Name	Part No.
IC 901		UPD6700GH
Q 451 452	Chip Transistor	DTC343TK
Q 901 902 903 904 905 906 907	Chip Transistor	DTA143XU
D 901 902 903 904 905 906	Chip LED	CL140YGX
D 907	Chip LED	CL140DCD
D 908	Chip LED	CL140URCD
S 901 902 903 904 905 906	Switch	CSG1044
S 907 908 909 910 911 912	Switch	CSG1044
IL 901 902 903 904 905	Lamp	CEL1242
VR 451	Volume 50k Ω (B) \times 2	CCS1126
VR 452	Volume/Switch 50k Ω (B) \times 2 FL Tube	CCS1127 CAW1129

RESISTORS

==== Circuit Symbol & No. ===	Part Name	Part No.
R 451 452		RS1/10S221J
R 453 454		RS1/10S222J
R 455 456 457 458		RS1/10S472J
R 459 460 461 462		RS1/10S392J
R 463 464		RS1/10S273J
R 465 466		RS1/10S123J
R 901 902 903 904 905 906 907 908 909		RS1/10S102J
R 910 911 912 913 914 915 916 917 918		RS1/10S102J
R 919 920 921		RS1/10S102J
R 922		RS1/10S561J

CAPACITORS

==== Circuit Symbol & No. ===	Part Name	Part No.
C 451 452		CS2SR4R7M10
C 453 454		CS2S1R5M10

Unit Number :
 Unit Name : Switch P.C. Board

==== Circuit Symbol & No. ===	Part Name	Part No.
S 1	Switch (CST SET)	CSN-089
S 2 3	Switch (CST 1N. 70 μ S)	CSN1003
MR 1 2	Magnetic Resistive Device	DM-1058

Unit Number :
 Unit Name : P.C. Board Unit

==== Circuit Symbol & No. ===	Part Name	Part No.
D 1 2 3		1S1555

Miscellaneous Parts List

==== Circuit Symbol & No. ===	Part Name	Part No.
HD 1	Head Unit	CXA3551
M 1 2	Motor (Head Position, FF/REW Position)	CXA2429
M 3	Motor (Capstan)	CXM1055

107
xp



Service Manual

ORDER NO.
CRT-468-0

CASSETTE MECHANISM ASSEMBLY

CX-156/A, CX-156/B

- This service manual is for cassette mechanism assembly used in car stereo components.
- Refer to the service manual for individual models for details on sections other than the cassette mechanism assembly.

Model	Service Manual	Cassette Mechanism Assembly
FX-K5/EW	CRT-469	CX-156/A
FX-K5B/EW		CX-156/A
FX-K5SDK/WG		CX-156/A
FEX-55/US, CA, CS	CRT-471	CX-156/A
FEX-50/ES	CRT-470	CX-156/A
KX-E60/EW	CRT-476	CX-156/B

Model	Service Manual	Cassette Mechanism Assembly

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1. REPLACEMENT OF PARTS IN CASSETTE MECHANISM

• Belt and capstan motor (M3) replacement

1. Remove the four screws and the cover. (Fig. 1)
2. The belt in Fig. 2 can be replaced. (Be sure that the belt is not greased and not twisted.)
3. To replace the capstan motor, remove the two screws shown in Fig. 2.

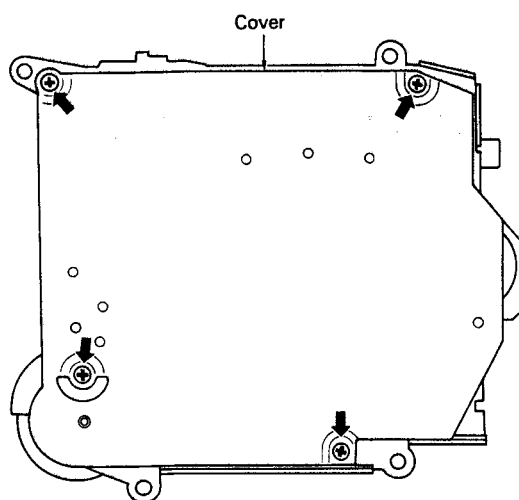


Fig. 1

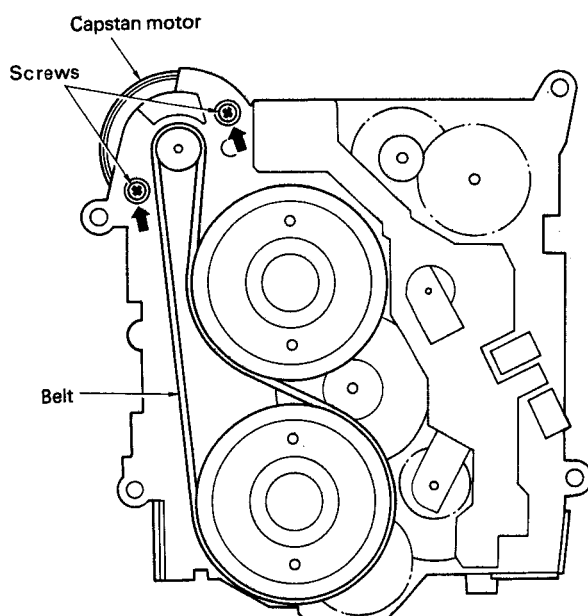


Fig. 2

• Cassette holder removal

1. Turn the capstan motor until the cassette holder drops down. (Do not turn the flywheel directly by hand.)
2. Remove the screw labeled "B", the collar and the spring.
3. Remove unit "A" and the cassette holder "D" and "E".

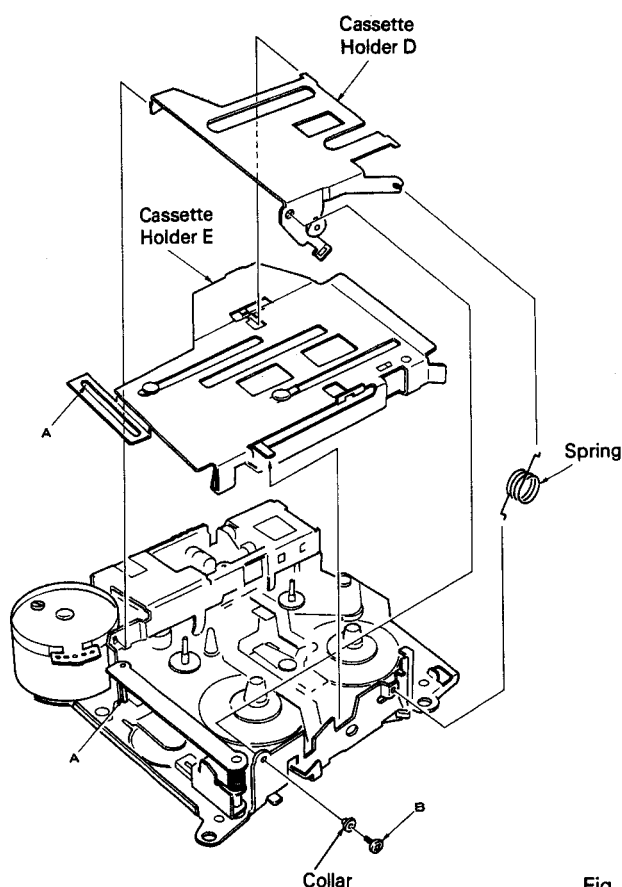


Fig. 3

• Head unit replacement

1. Remove the washer and spring.
2. Remove the screw labeled "F", and the head unit can be removed in the opposite direction.
3. Be careful of the following point during reassembly.
 - Put the head unit pins through the lever holes. (One in front and one in back.)

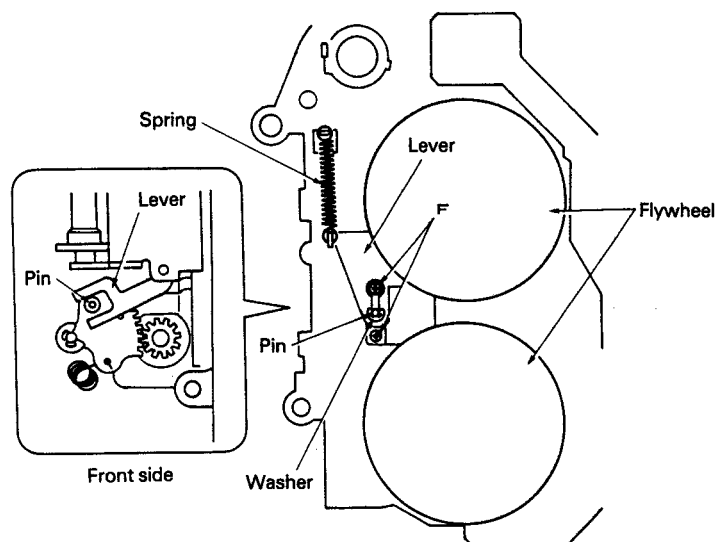


Fig. 4

• Sub-motor replacement (M1 and M2)

1. Remove the two screws labeled "G" and remove the P.C. board unit.
2. The sub-motor can be removed by removing the three screws indicated by the arrows.
3. Sub-motor 2 (for switching the FF/REW gear) can be replaced when the spacer has been removed. (The motor fits very snugly, so some force must be used to remove it.)
4. Sub-motor 1 (for turning and positioning the head) can be replaced by removing the belt, lock washer, pulley and two screws labeled "J".

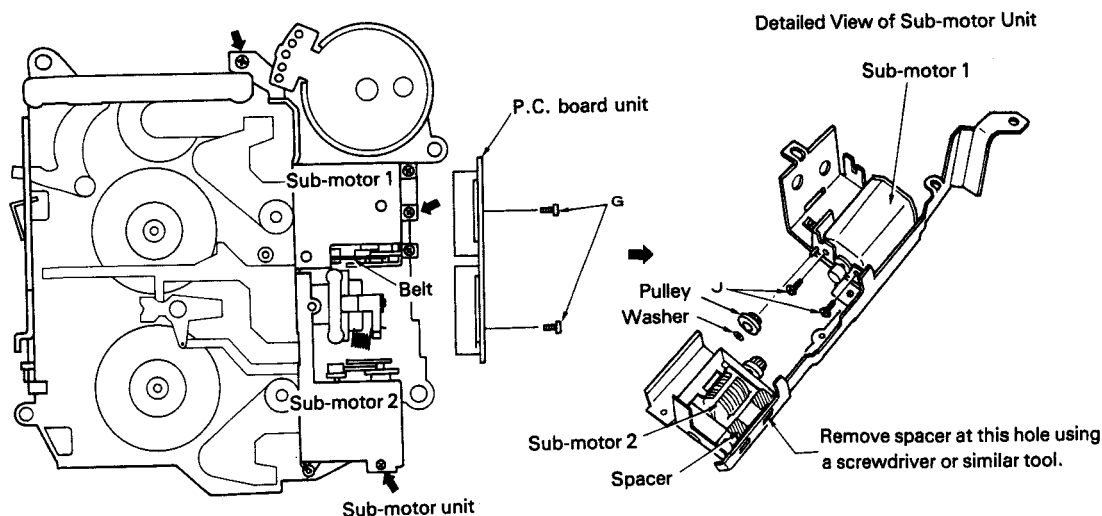


Fig. 5

• **Reel unit replacement**

1. Remove the six screws and the switch P.C. board.
2. Remove the screw labeled "K" and the collar and free the FF/REW idler gear.
3. The reel assy can be replaced by removing the two screws labeled "L" and removing the reel unit.

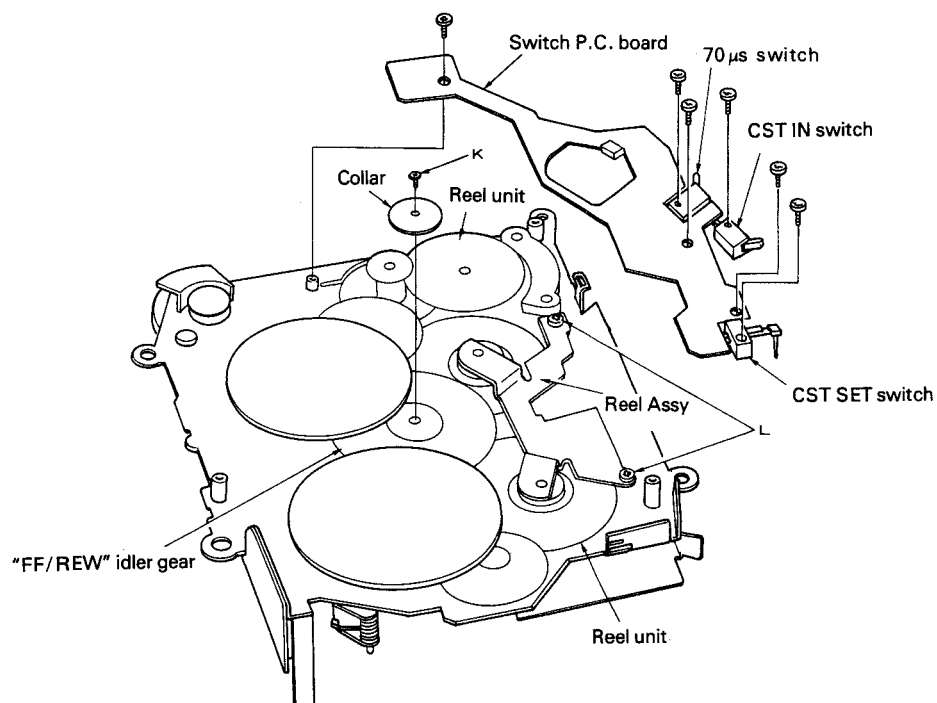


Fig. 6

2. MECHANISM DESCRIPTION

Cassette mechanism assy for CX-156/A is used in this mechanism description.

1. Outline of Mechanism

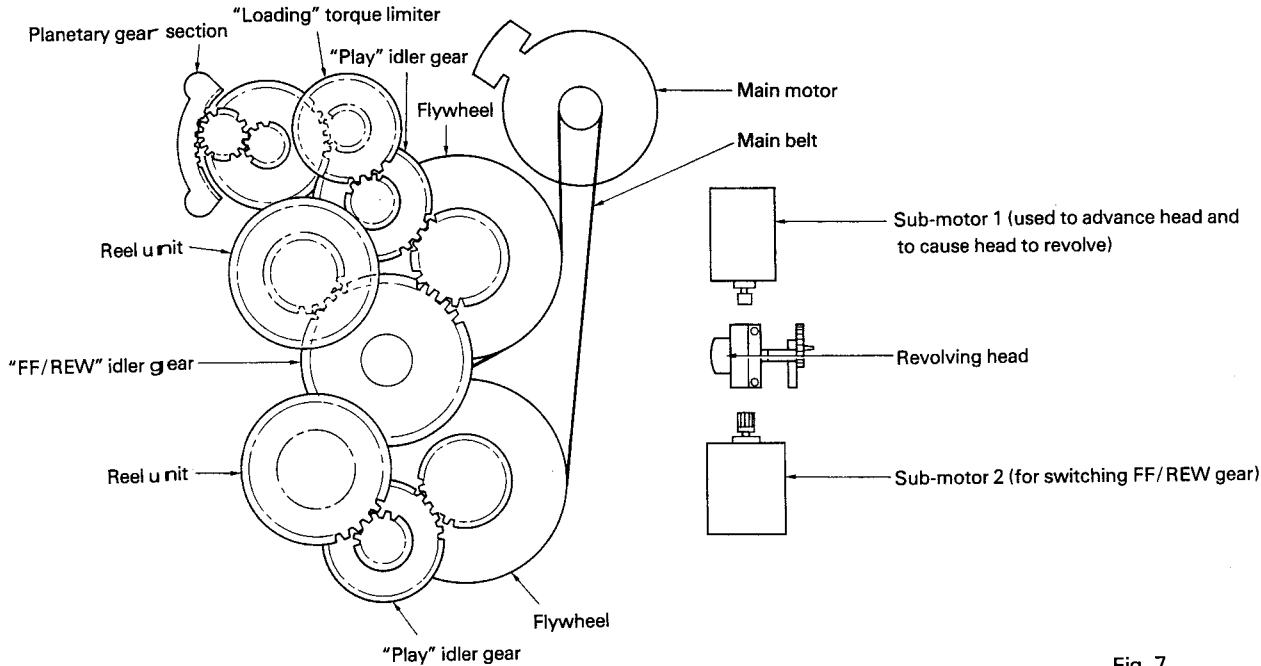


Fig. 7

2. Loading/Eject Function

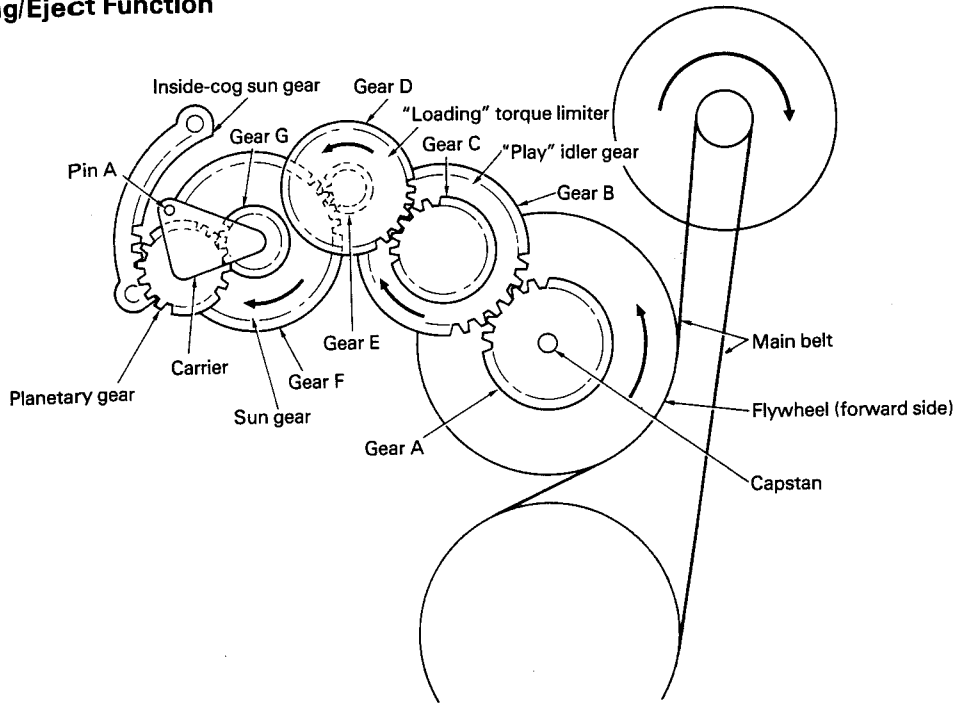


Fig. 8

3. Cassette Tape Load and Eject Mechanism

• Cassette tape loading operation

1. Push the cassette tape lightly in the direction indicated by the arrow. (As shown in Fig. 10, arm "A" and arm "B" connect to spring "A". These are also connected to common axis shaft "A", which is attached to the chassis surface and acts as a swivel. Pin "A", which is caulked to the planetary gear unit carrier, goes through the chassis and fits into the oblong hole of arm "B". Because pin "A" won't move as long as the capstan motor isn't moving, arm "B" won't move either.)
2. When a cassette tape is loaded, arm "A" moves in the direction indicated by the arrow and spring "A" loosens. Lever "A" also moves in the direction indicated by the arrow, and the catch at left of the lever releases arm "C". Arm "C" then turns counterclockwise and opens the CST IN switch. The capstan motor then begins turning forward.
3. The carrier then moves clockwise because the planetary gear moves along the inside-cog sun gear. Pin "A" which is caulked to the carrier also moves in the same direction. (Fig. 11) The movement of pin "A" is causing arm "B" to move counterclockwise. Arm "A" turns in the same fashion and the "A" unit of lever "A" draws the cassette tape in. (Fig. 9)

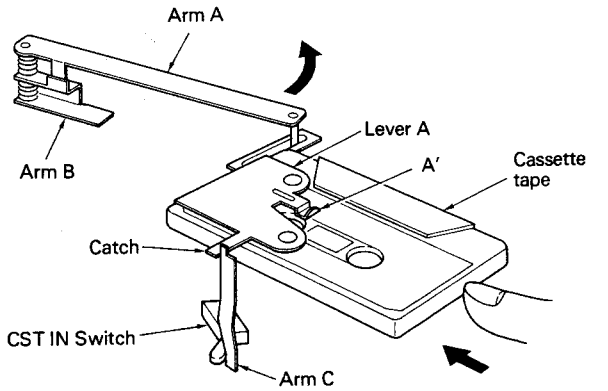


Fig. 9

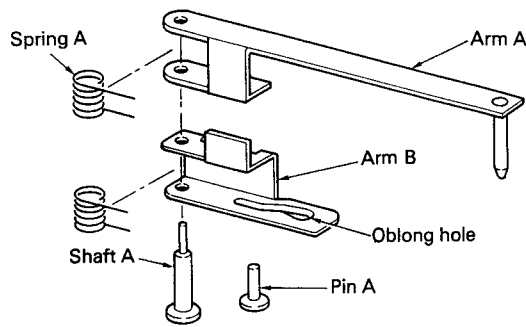


Fig. 10

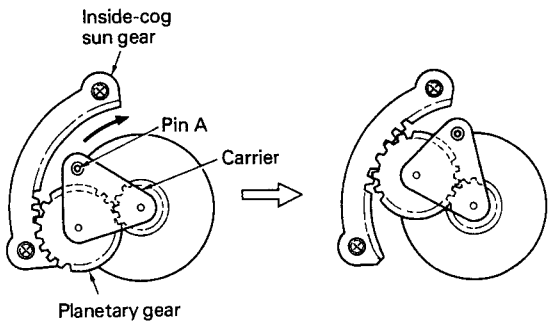


Fig. 11

4. The oblong hole of arm "B" is as shown in Fig. 12. The cassette tape draw-in process will be complete when the pin "A" degree of rotation is θ . Arm "B" will not move while the degree of rotation is θ' .

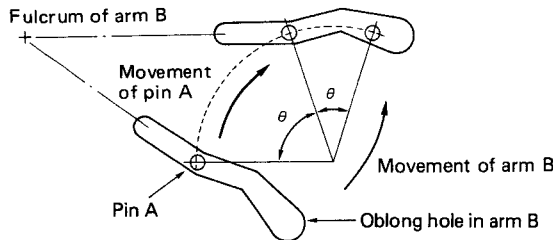


Fig. 12

5. As shown in Fig. 13, arm "C" (caulked to the chassis swivel) is fixed to pin "A" and when the degree of rotation is θ arm "C" is stationary, and when it is θ' arm "C" turns clockwise.

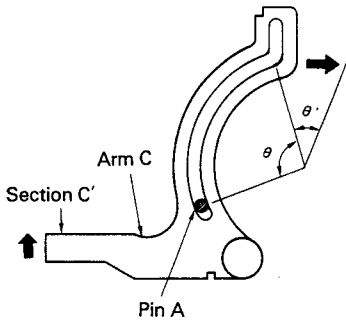


Fig. 13

- As shown in Fig. 14, the "C" unit of arm "C" connects to the cassette arm (which suspends the cassette tape) through spring "C". The arm "C" movement described above in paragraph five makes the "C" unit move in the direction indicated by the arrow in Fig. 14. The cassette arm pushes down holder "A" by means of spring "B". The "C" unit is released when holder "A" drops down.
- In order for the capstan motor to keep turning forward, the planetary gear disengages from the inside-cog sun gear and becomes free.

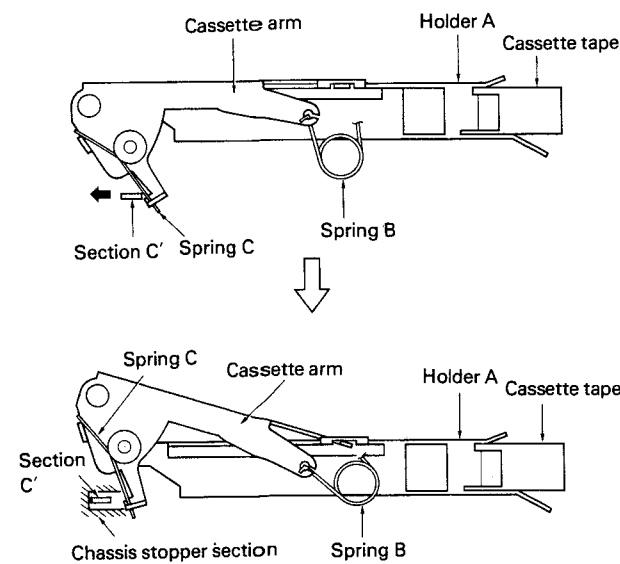


Fig. 14

4. Head Turning and Head Positioning Operations (during forward play)

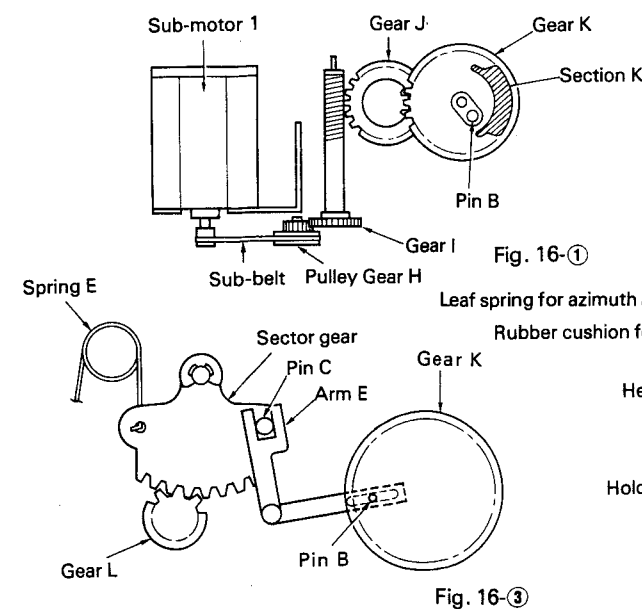


Fig. 16-1

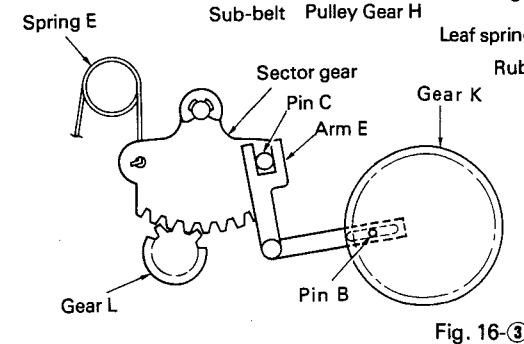


Fig. 16-3

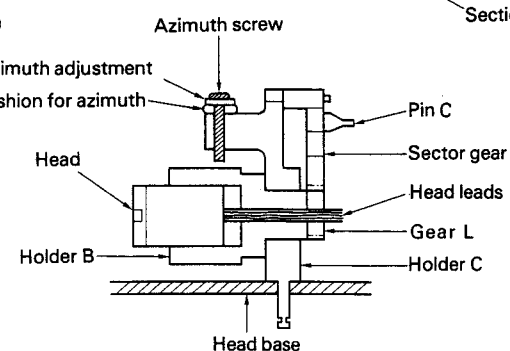


Fig. 16-4

• Eject operation

- Turning on the eject switch reverses the capstan motor. As shown in Fig. 15, spring "D" places slight friction on the planetary gear which causes it to engage with the inside-cog sun gear. The cassette tape is ejected following an operation opposite to the loading operation.

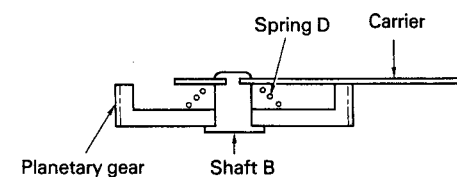


Fig. 15

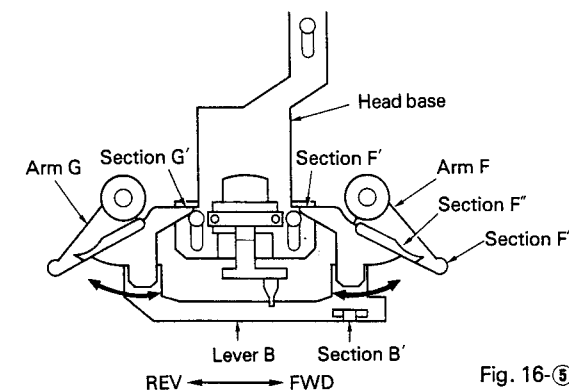


Fig. 16-5

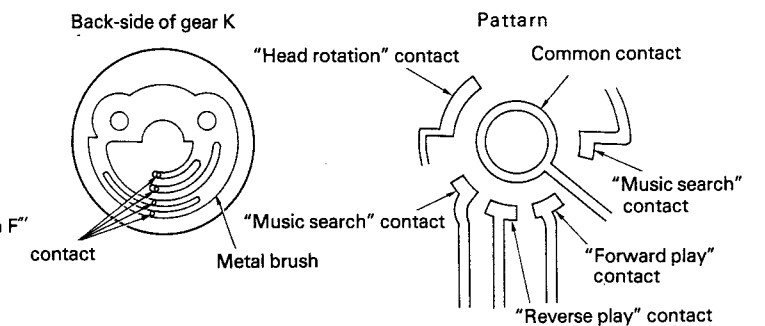


Fig. 16-6

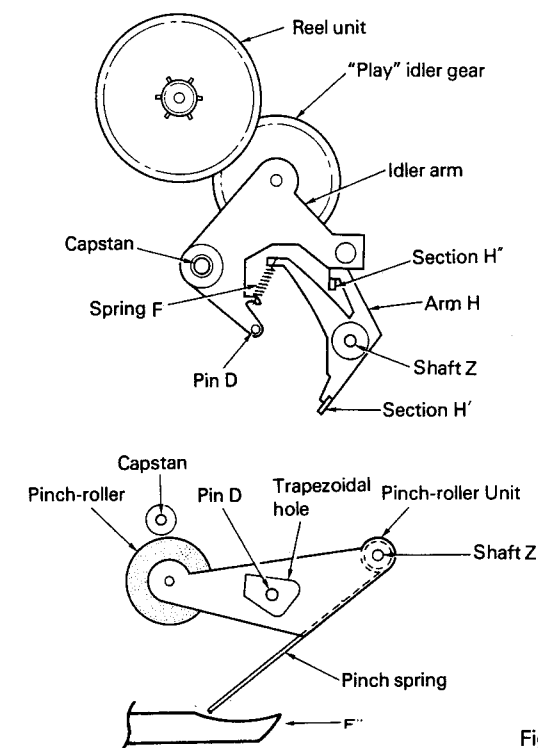
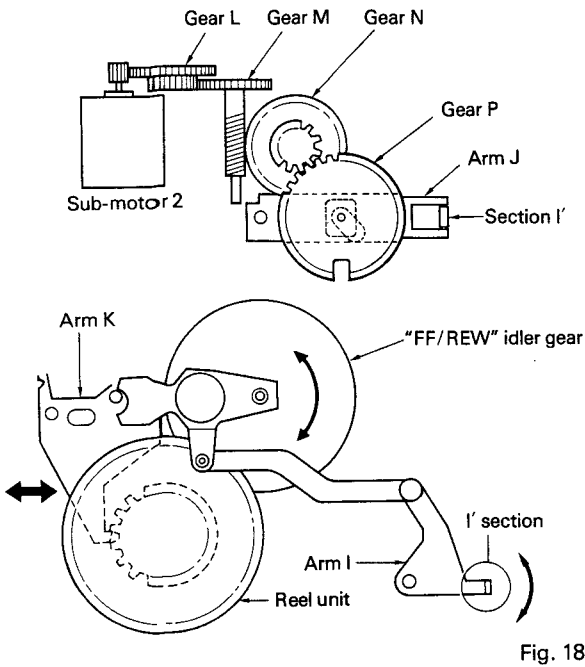


Fig. 17

- The sub-belt from sub-motor 1 goes through pulley gear "H", gear "I", gear "J" and turns gear "K". Head turning and head base positioning take place using the "K" unit (the projecting unit) of gear "K" and pin "B". There is a metal brush attached to the back of gear "K" which detects the passing through of all patterns and common patterns and stops sub-motor 1. This controls the head positioning, the head turning, the contact pressure of the play idler gear and the contact pressure of the pinch roller.
- Head turning at pin "B" takes place until gear "K" starts turning which brings the "K" part into contact with the lever "B", "B" part. (Fig. 16-3)
- Pin "B" engages with the arm "E" oval opening and rotates arm "E". The arm "E" sector gear is engaged with pin "C" and this turns the head. The head rotation pattern (Fig. 16-6) performs this operation inside a certain angle.
- When gear "K" turns it also pushes the lever "B", "B" part. The "B" part turns arm "F" and arm "G" counter-clockwise and advances head base with the arm "G", "G" part. (Fig. 16-2, 5)
- After the head base goes beyond the MS pattern (Fig. 16-6) position, the arm "F", "F" part pushes the pinch roller unit pinch spring and presses the pinch roller down onto the capstan. (Fig. 17)
- Simultaneously, the arm "F", "F" unit pushes the arm "H", "H" part. The "H" part lock releases when pushed, and the play idler gear comes into contact with the reel unit. Play operation begins because of this. (Fig. 16-5, Fig. 17)
- When going from play to eject, first, the pinch roller disengages from the capstan, and then using the pinch roller unit trapezoidal hole, releases the idler arm from the reel unit by means of pin "D". After that, the "H" unit again meshes with the idler arm and the "play" idler gear stops after completely disengaging from the reel unit.

5. FF/REW Operation

1. As with the head operations a brush is attached to the back of gear "P" and using patterns and the brush, position sensing takes place and this controls the FF/REW operation.
2. Sub-motor 2 goes through gears "L", "M" and "N" and turns gear "P". When gear "P" turns, arm "I" rotates by means of arm "J". Arm "I" rotates the FF/REW idler gear and engages it with the reel unit.



3. ADJUSTMENT

3.1 AZIMUTH ADJUSTMENT

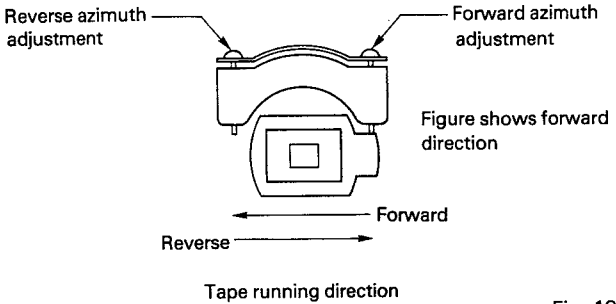


Fig. 19

• To Adjust

1. Play "A" side of STD-341A (10kHz, -20dB). Adjust each screw for maximum output in forward and reverse directions.
2. Play "B" side in forward and reverse directions to confirm adjustment.

3.2 TAPE SPEED ADJUSTMENT

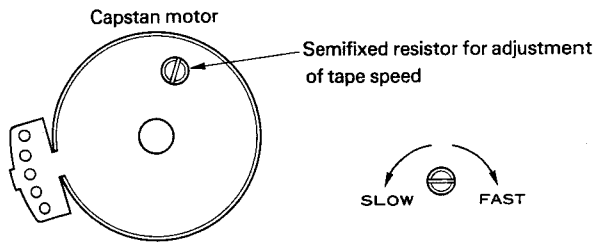


Fig. 20

• To Adjust

1. Reproduce STD-301 (3kHz, -10dB). Adjust the semifix resistor so that the frequency counter shows 3,010Hz (+30Hz, -30Hz).

3.3 CHECK POINTS OF CASSETTE MECHANISM

<p>Confirm the following items when replacing parts of the cassette mechanism.</p>	<p>■ Tape speed deviation:</p> <p>$3,000 \pm \begin{smallmatrix} 90 \\ 30 \end{smallmatrix} \text{ Hz}$</p> <p>$(4.76 \text{ cm/s} \pm \begin{smallmatrix} 3 \\ 1 \end{smallmatrix} \%)$</p> <p>Using an STD-301, measure the speed at the start and end of winding and see that a deviation remains within the limits each time. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5~6 seconds.</p>	<p>■ Wow and flutter:</p> <p>Less than 0.15% (WMS)</p> <p>Using an STD-301, measure the wow and flutter at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5~6 seconds.</p>
<p>■ Fast forward and rewinding time:</p> <p>95 ~ 115 seconds</p> <p>Using a C-60, set to fast forward and rewind, and measure the time with a stop watch.</p>	<p>■ Winding torque:</p> <p>40 ~ 60g · cm</p> <p>Using a cassette type torque meter (100 g · cm), measure the minimum value while in the play mode. Measuring time shall be 5 ~ 6 seconds.</p>	<p>■ F.F. torque:</p> <p>70 ~ 110g · cm</p> <p>Using a cassette type torque meter (120 g · cm), measure the value when the tape stops in the F.F. mode.</p>
<p>■ REW torque:</p> <p>70 ~ 110g · cm</p> <p>Using a cassette type torque meter (120 g · cm), measure the value when the tape stops in the REW mode.</p>	<p>■ Back tension torque:</p> <p>2.0 ~ 3.5g · cm</p> <p>After setting in the REW mode without loading a cassette tape for 5 minutes, measure the back tension torque in the play mode, using a cassette type torque meter.</p>	<p>■ Cassette loading force:</p> <p>450 ~ 550 g</p> <p>Push the center of the cassette and measure the force with a tension meter (1 kg).</p>

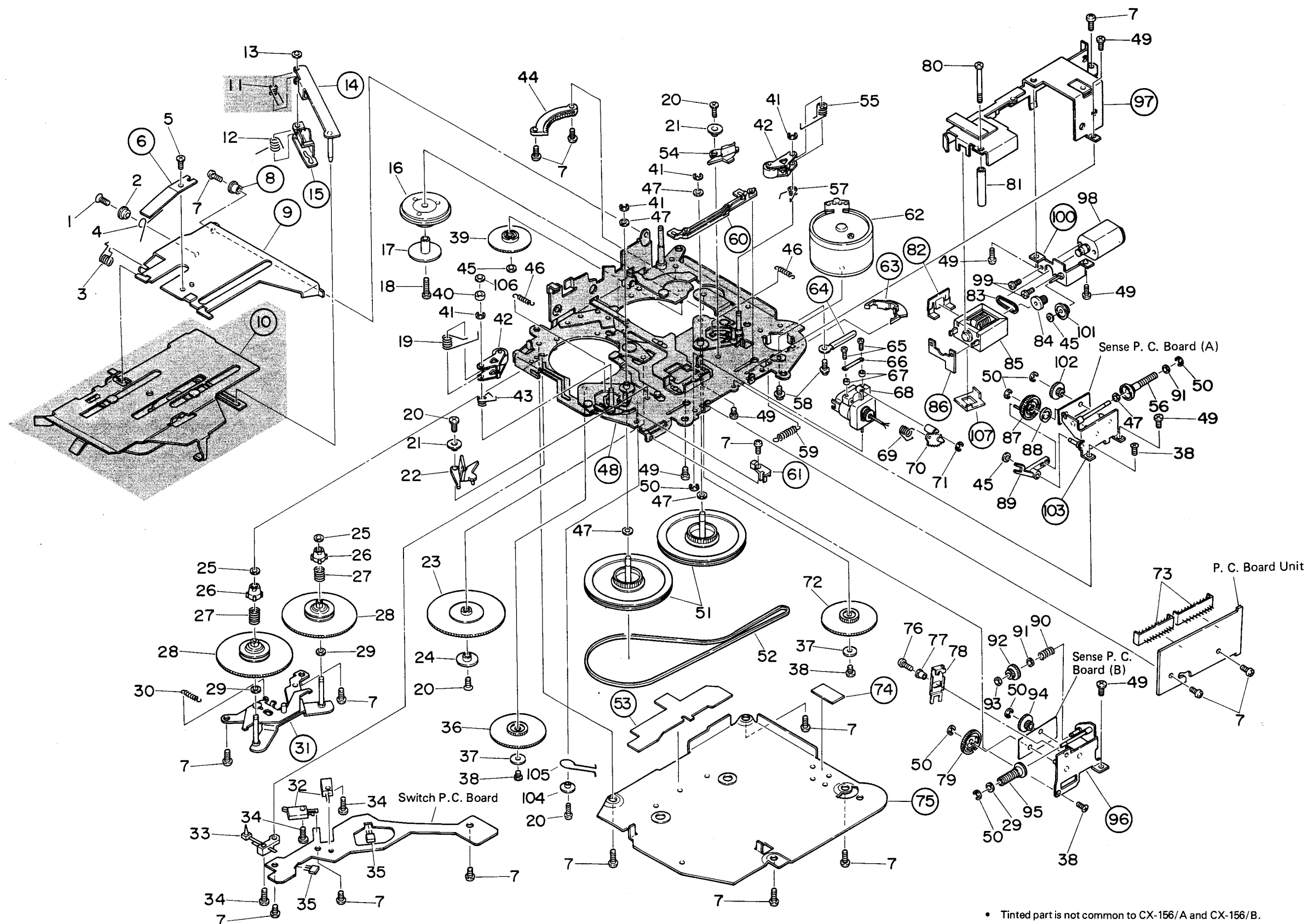
4.EXPLODED VIEW

A

B

C

D



• Tinted part is not common to CX-156/A and CX-156/B.

Fig. 21

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.

★ ★ : GENERALLY MOVES FASTER THAN ★.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- Parts whose parts numbers are omitted are subject to being not supplied.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1.	HBA - 193	Screw M1.4×3.5		53.		Insulator
	2.	CLB - 691	Collar		54.	CNW - 931	Arm
	3.	CBH - 837	Spring		55.	CBH - 831	Spring
	4.	CBH - 867	Spring		56.	CNW - 956	Gear
	5.	HBA - 147	Screw M1.4×1.4		57.	CBH - 833	Spring
	6.		Spring		58.	PMS26P030FMC	Screw
	7.	BMZ20P040FMC	Screw		59.	CBH - 830	Spring
	8.		Bush		60.		Lever
	9.		Arm		61.		Spacer
	10.		Holder Unit (CX-156/A)	★ ★	62.	CXM - 161	Motor (Capstan)
			Holder Unit (CX-156/B)		63.		Clamper
	11.	CBH - 836	Spring (CX-156/A)		64.		Clamper
		CBH - 887	Spring (CX-156/B)		65.	CBA - 173	Screw M1.4×8
	12.	CBH - 886	Spring		66.	CBE - 114	Spring
	13.	CBF - 046	Washer		67.	CNY - 134	Azimuth Rubber
	14.		Arm Unit	★ ★	68.	CXD - 758	Head Unit
	15.		Arm		69.	CBH - 829	Spring
	16.	CXD - 388	Gear Unit		70.	CNW - 939	Gear
	17.	CLB - 617	Collar		71.	YE15FUC	Washer
	18.	CBA - 166	Screw M1.7×8		72.	CNW - 943	Gear
	19.	CBH - 832	Spring		73.	CKS - 534	Plug
	20.	HBA - 310	Screw M2×3.5		74.		Insulator
	21.	CLB - 612	Collar		75.		Cover
	22.	CNW - 930	Arm		76.	HBA - 158	Screw M1.4×5
	23.	CNW - 944	Gear		77.	CLB - 750	Collar
	24.	CLB - 616	Collar		78.	CNH - 004	Arm
	25.	CBF - 135	Washer		79.	CNW - 953	Gear
	26.	CNW - 932	Collar		80.	CBA - 165	Screw M2
	27.	CBH - 827	Spring		81.	CLB - 749	Spacer
★ ★	28.	CXD - 384	Reel Unit		82.		Spacer
	29.	CBF - 088	Washer	★ ★	83.	CNT - 114	Belt
	30.	CBH - 868	Spring		84.	CNW - 941	Gear
	31.		Bracket Unit	★ ★	85.	CXM - 351	Motor (Gear Position)
★ ★	32.	CSN - 091	Switch (70μs, CST IN)		86.		P.C. Board
★ ★	33.	CSN - 089	Switch (CST SET)		87.	CNW - 952	Gear
	34.	CBA - 172	Screw M1.7×5.5		88.	CNN - 481	Spacer
★	35.	SDME106A	Magnetic Resistive Device		89.	CNW - 958	Arm
	36.	CNW - 943	Gear		90.	CBH - 866	Spring
	37.	CLB - 615	Collar		91.	HBF - 116	Washer
	38.	HBA - 209	Screw M2×2		92.	CNW - 954	Gear
	39.	CNW - 950	Gear		93.	CBF - 135	Washer
	40.	CLB - 690	Roller		94.	CNY - 077	Gear
	41.	EBG - 001	Washer		95.	CNY - 148	Gear
★ ★	42.	CXD - 387	Pinch Roller Unit		96.		Holder Unit
	43.	CBH - 834	Spring		97.		Guide
	44.	CNW - 951	Gear	★ ★	98.	CXM - 452	Motor (Head Position)
	45.	CBF - 126	Washer		99.	HBA - 244	Screw M1.4×1.6
	46.	CBH - 835	Spring		100.		Bracket Unit
	47.	HBF - 179	Washer		101.	CNY - 075	Pulley
	48.		Chassis Unit (CX-156/A)		102.	CNW - 955	Gear
			Chassis Unit (CX-156/B)		103.		Holder Unit
	49.	HBA - 175	Screw M2×2.5		104.	CLB - 760	Collar
	50.	YE12FUC	Washer		105.	CBH - 893	Spring
	51.	CNW - 942	Flywheel		106.	HBF - 180	Washer
★ ★	52.	CNT - 111	Belt		107.		Cover

5. CONNECTION DIAGRAM

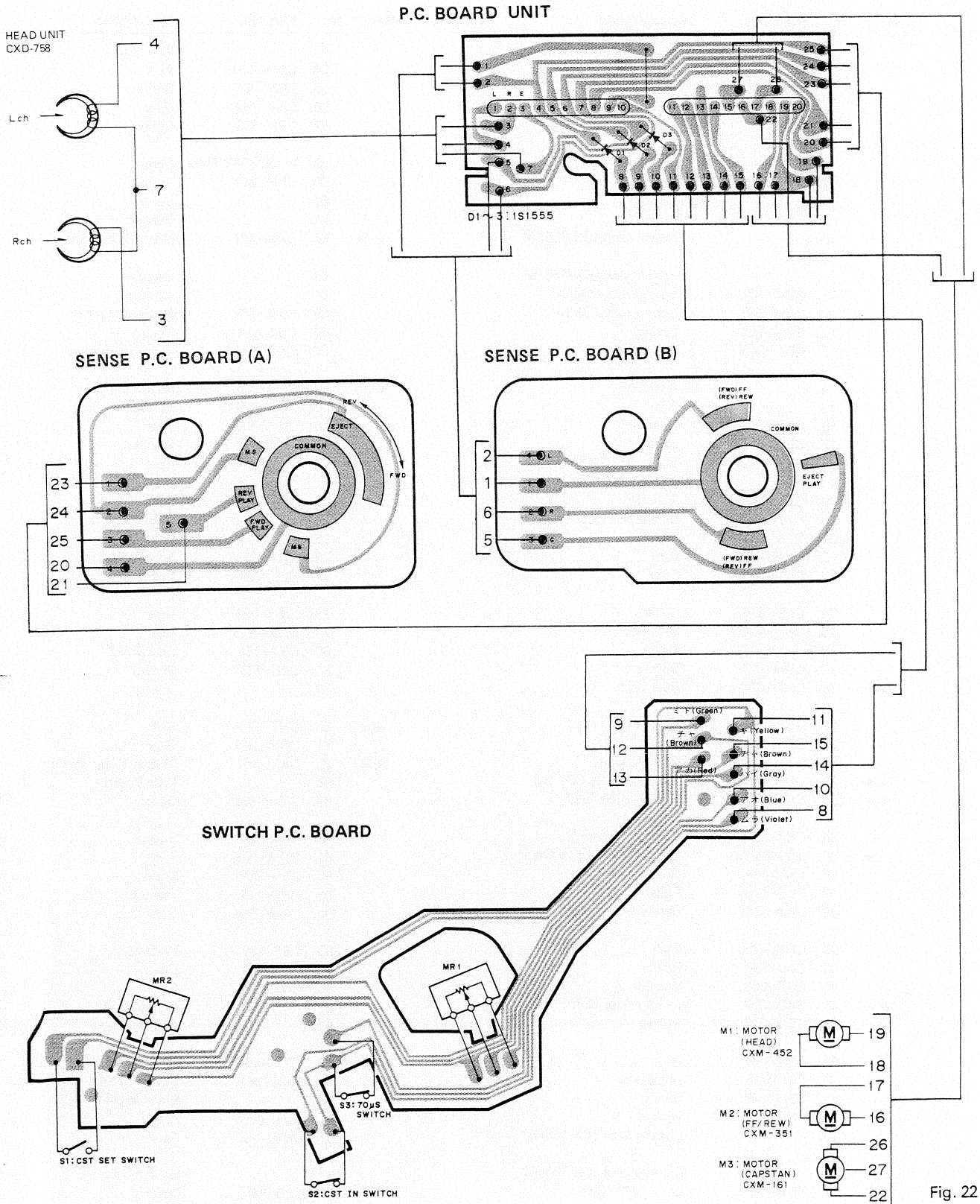
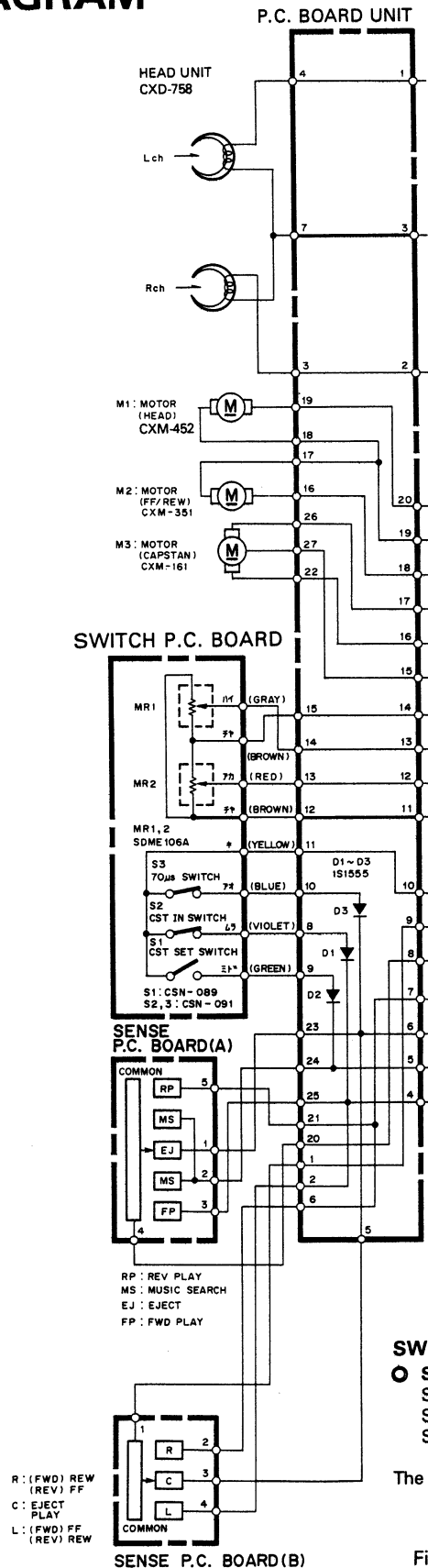


Fig. 22

6. SCHEMATIC CIRCUIT DIAGRAM



7. ELECTRICAL PARTS LIST

Switch P.C. Board

Mark	Symbol & Description	Part No.
★ ★	S1 Switch (CST SET)	CSN-089
★ ★	S2, S3 Switch (CST IN, 70μs)	CSN-091
★	MR1, MR2 Magnetic Resistive Device	SDME106A

P.C. Board Unit

Mark	Symbol & Description	Part No.
★	D1 - D3	1S1555

Miscellaneous Parts List

Mark	Symbol & Description	Part No.
★ ★	Head Unit	CXD-758
★ ★	M1 Motor (Head)	CXM-452
★ ★	M2 Motor (Gear)	CXM-351
★ ★	M3 Motor (Capstan)	CXM-161

SWITCHES

○ SWITCH P.C. BOARD

- S1: CST SET SWITCH.....ON-OFF
- S2: CST IN SWITCH.....ON-OFF
- S3: 70μs SWITCH.....ON (120μs)-OFF (70μs)

The underlined indicates the switch position.

Fig. 23